

ROLLING & FOLDING DOORS & SHUTTERS

The Kinnear Mfg. Co.,
Columbus, Ohio. U.S.A.

Digitized by:

The Association for Preservation Technology



From the collection of:

Floyd Mansberger
Fever River Research
www.IllinoisArchaeology.com

KINNEAR

STEEL AND WOOD ROLLING AND FOLDING DOORS SHUTTERS AND PARTITIONS

CATALOG No. 52

KINNEAR Doors and Shutters intended for service are carefully designed, constructed of the best material and assembled by competent and skilled mechanics. Adaptable to Buildings of all classes, Public Edifices of Classic Design, Modern Mercantile Buildings, Piers, Factories, Ware and Freight Houses.

In specifying and buying, too frequently the only element of consideration is that of first cost. The cost of maintenance, efficiency of the device, and reliability of manufacture, are equally important. The same careful thought should be exercised in the purchase of doors as in other matters; they are operated many times daily, and one that does not require frequent repairs, which operates with rapidity and ease, saves money, time and labor, will always be more satisfactory and ultimately the most economical.

"Rolling" and "Folding" Doors are terms indicative of class, not quality, but the name of this Company prefixed, gives a new significance and carries with it the assurance of superior device.

This catalog is devoted exclusively to service doors. For information relative to fire doors and shutters, see Catalog No. 53, which illustrates and describes various types, manufactured under the supervision of the Underwriters Laboratories, Inc.

The KINNEAR MANUFACTURING COMPANY

COLUMBUS, OHIO, U. S. A.

BOSTON, MASS., 85 Water Street

PHILADELPHIA, PA., 1011 Chestnut Street

SAN FRANCISCO, CAL., 517 Rialto Building

CHICAGO, ILL., 1860 C. & C. Bank Building

CLEVELAND, OHIO, 409 Union Building

DETROIT, MICH., 709 Ford Building

NEW YORK, 38 Park Place

AGENCIES

CINCINNATI, OHIO

KANSAS CITY, MO.

PITTSBURGH, PA.

INDIANAPOLIS, IND.

NEW ORLEANS, LA.

SEATTLE, WASH.

SPOKANE, WASH.

ST. LOUIS, MO.

MEMPHIS, TENN.

LOS ANGELES, CAL.

DENVER, COLO.

ATLANTA, GA.

MONTREAL, QUE.

WINNIPEG, MAN.

VANCOUVER, B. C.

WE are pleased to announce that the products of the Kinnear Manufacturing Company have been augmented by the addition of many new types. Some of the old types have been discontinued, those retained improved and refined.

Our efforts have been directed to producing sturdy, durable and efficient types. Easy and rapid operation of our doors is obtained by careful calculation to determine the size of springs employed in counterbalancing; the quality of steel of which the springs are made; the liberal use of annular roller and thrust ball bearings, machine moulded gear and other refinements of this character.

In compactness, they effect economy in building construction, occupying neither valuable floor or wall space, nor do they offer obstruction, as they are overhead and out of the way.

By careful consideration of their use in designing buildings, the most advantageous arrangements will be obtained. Problems of storage and transportation will be rendered less difficult; the handling of merchandise and freight facilitated, and greater floor areas made available. The entire side of a building, if desired, may be converted into the equivalent of a single opening by a series of doors. Openings of excessive size may be successfully treated. Further, better installations will result, and erection made less expensive.

On the following pages are illustrated the more common applications which will doubtlessly suggest others. Detail drawings and other information will be gladly furnished upon request.

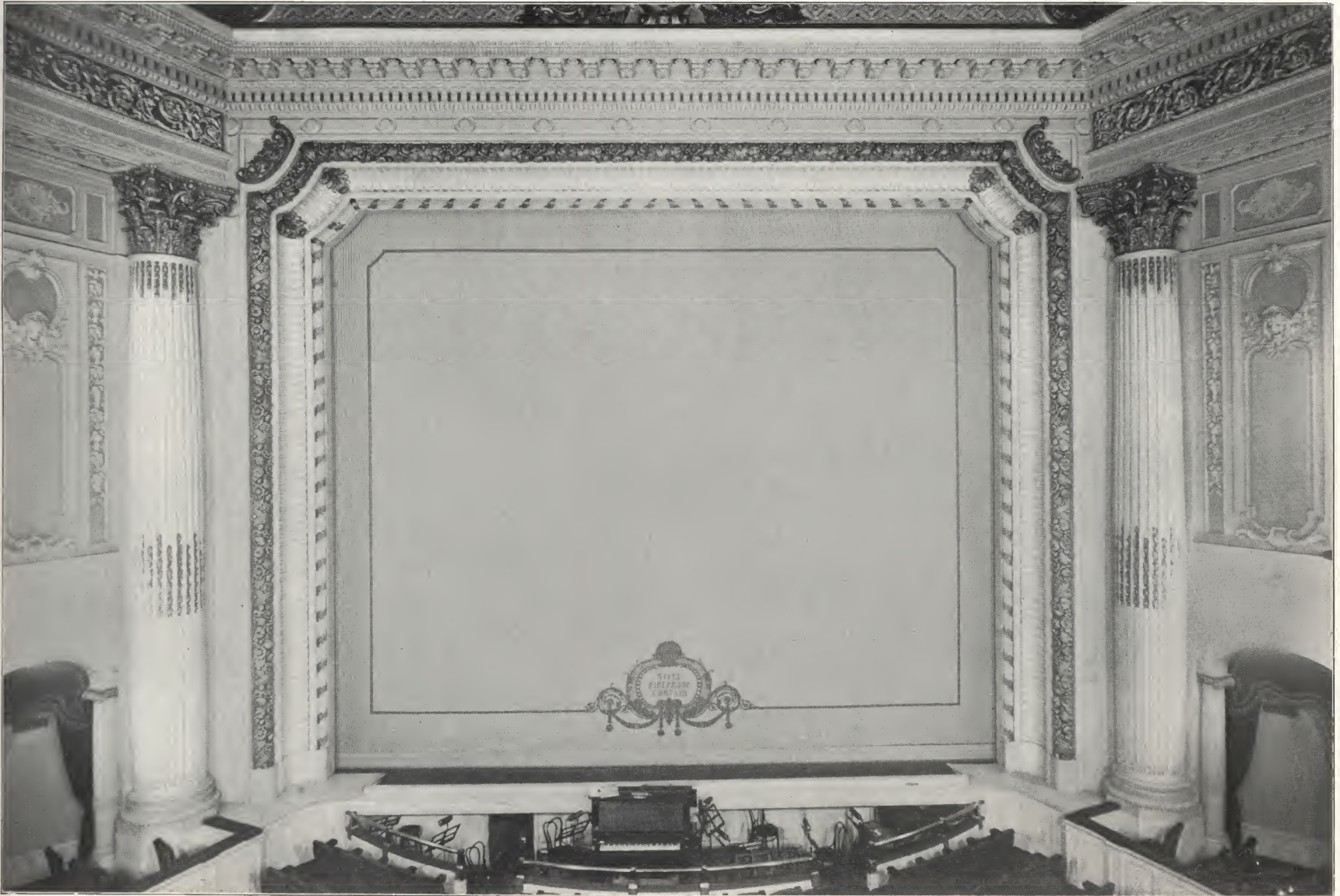
Arrangement of Catalog

For convenience, this Catalog has been divided into sections, each illustrated by views of actual installations, and followed by engineering drawings, generally shown in elevation, cross and vertical sections.

First Section—Steel Rolling Doors and Shutters.

Second Section—Wood Rolling Doors and Partitions.

Third Section—Folding and Sliding Doors, made of steel or wood.



Hartman Theater, Columbus, Ohio, Steel Lift Curtain—Size 44 ft. wide by 34 ft. high. Operated by electric motor. See Page 66 for details.



Panama-California Exposition, San Diego Music Pavilion—The proscenium opening is closed by a Kinnear Steel Rolling Door 32 ft. wide by 33 ft. high.



Views showing the adaptability of Kinnear Steel Rolling Doors to the best types of modern architecture—No. 1. Gimbel Bros'. Department Store, New York City, shipping and freight elevator doors. No. 2. Wanamaker Department Store, Philadelphia, shipping doors. No. 3. Altman Building, New York City, windows are protected by shutters made of bronze.



Reid-Murdoch & Co., Chicago—No. 1. River front showing wharf doors. No. 2. Doors to the wagon concourse. These are 22 ft. wide by 17 ft. high. They are operated manually and arranged to close automatically in event of a fire in close proximity.



Curtis Publishing Company, Philadelphia—Nos. 1 and 2 show Kinnear Steel Rolling Doors on shipping platform. No. 3. Track entrance. This door is 30 ft. wide by 19 ft. high, and is operated by electric motor. It is also equipped with alternate means for manual operation.



Butler Bros. Building, Chicago—Showing doors to the wagon concourse.



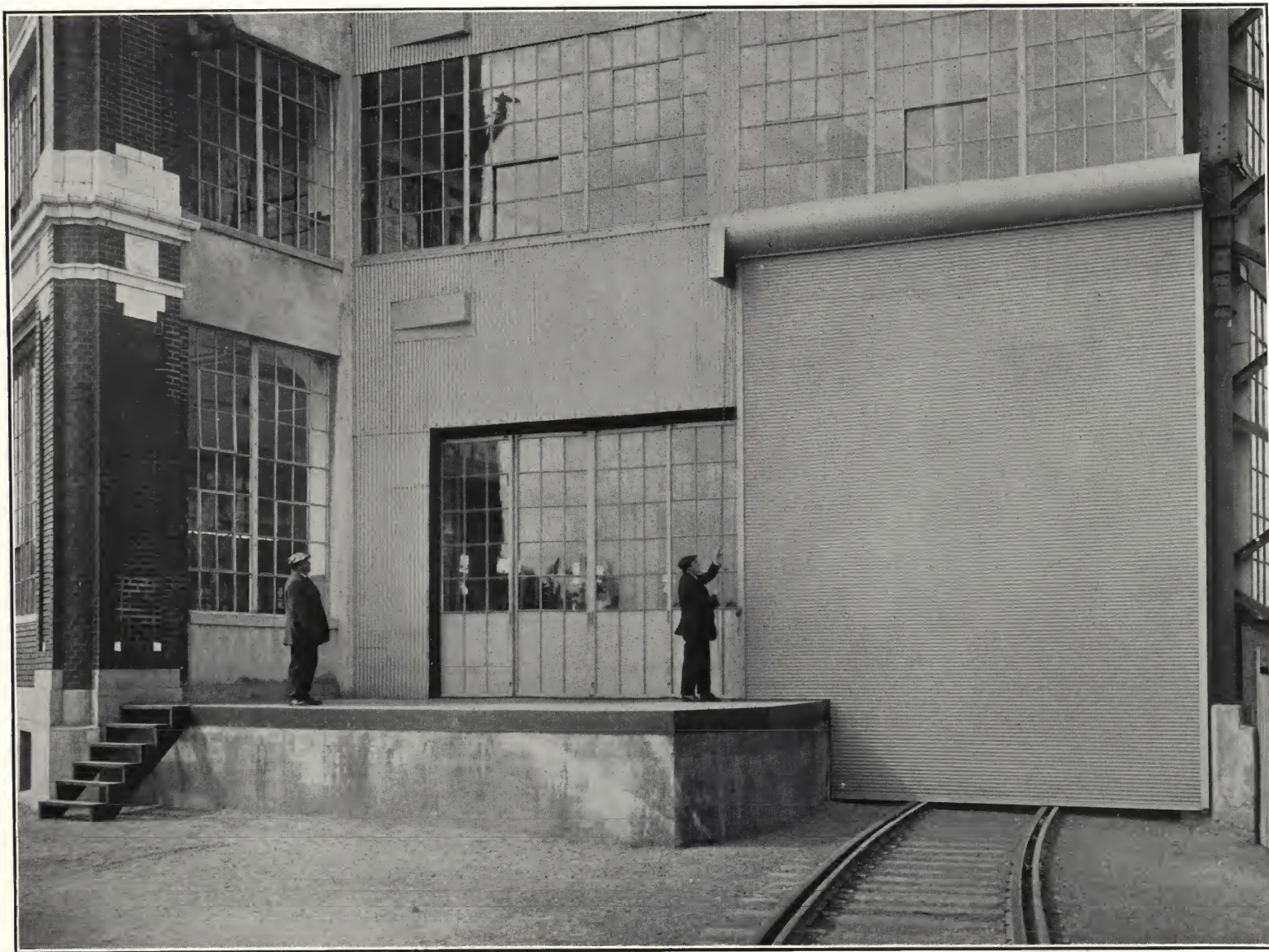
Arbuckles Bros. Building, Brooklyn—All first floor openings on the four sides of this building are equipped with Kinnear Doors. Steel Rolling Doors admit of close arrangement. In effect, this is equivalent to opening the entire side of the building and freight may be handled directly to the wagons at any point. No. 2. View of two track doors, one 27 ft. wide; the other 31 ft. wide; both 22 ft. in height. These are manually operated by means of reduction gear and endless chain.



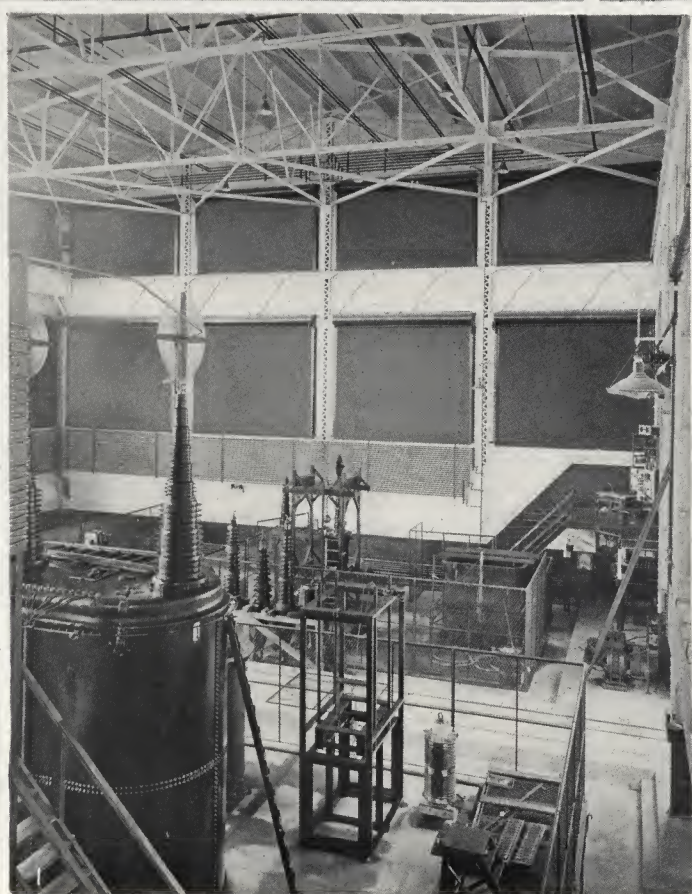
Joseph T. Ryerson & Co. Building, Chicago—Each opening is closed by two doors separated by a post hinged at the top, which is swung up by means of rope and pulley, making the entire opening available.



N. Snellenburg & Co., Warehouse, Philadelphia—The doors shown on this illustration are mounted on the exterior and operated from the interior. Kinneear Doors are sturdy and durable, properly designed and the best material and labor employed in their construction. The cost of maintenance is exceedingly low; damaged material can be replaced at a nominal expense.



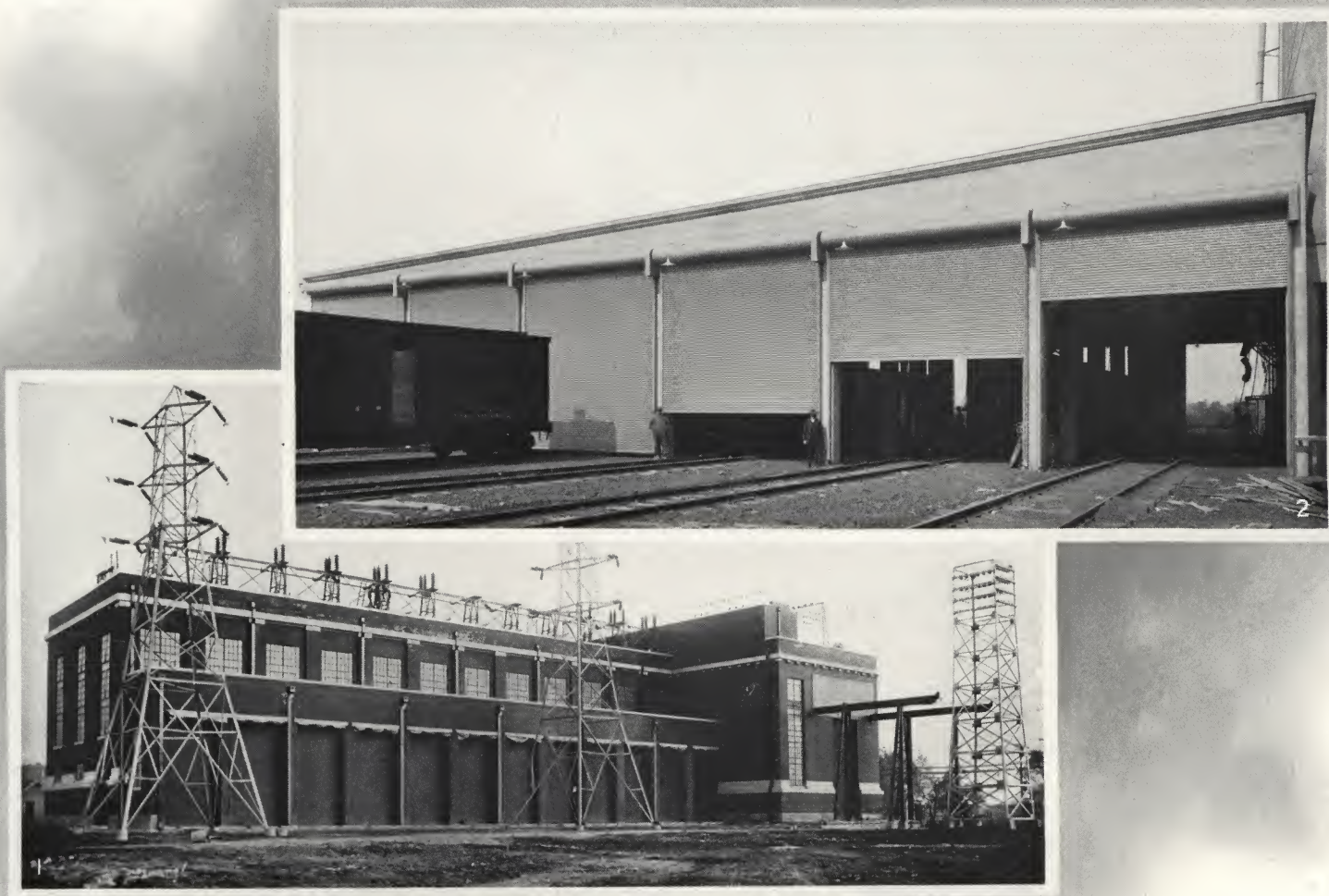
Ford Assembly Plant, Cambridge, Mass.—This door is 18 ft. wide by 22 ft. high, and covers the track entrance to the building. The platform is provided with a slot, which permits the door to close to the track level.



No. 1—Interior of Transformer Test Laboratory of the General Electric Company, Pittsfield, Mass.—In the process of testing transformers, photographic exposures are made, which necessitated a special construction of shutter that would exclude light. No. 2. Warehouse, McCormick Works, International Harvester Company—View showing interior of elevator shaft. The Kinnear Doors are equipped with hydraulic operating means.



The Power Plant of The Electric Company of Missouri, St. Louis, for transforming power from the Mississippi Dam, at Keokuk, Iowa—The method of closing the crane opening is of special interest. That portion above the crane rails is covered by plates attached to latticed girder, which is mounted upon trucks. On the bottom of the girder are brackets, supporting the Rolling Door, closing the lower portion of the opening, which is 14 ft. wide and 31 ft. high. The grooves are attached to the brick walls. To utilize the opening, the rolling door is coiled up; the crane then pushes the girder out ahead of it.



No. 1. Electric Company of Missouri—showing a series of Kinnear Doors 12 ft. wide by 21 ft. high. No. 2. Pennsylvania Grain Elevator, Girard Point, Philadelphia—Doors 18 ft. wide by 22 ft. high. The opposite side of building is similarly equipped.



No. 1. One of four crane opening doors at the Charleston Navy Yards. It is 25 ft. wide by 31 ft. high. Curtain is composed of No. 4 slats, made of 16 U. S. Gauge Steel; weighs 10,000 pounds. No. 2. Hecker-Jones Jewell Mills, New York City—This Door is 10 ft. wide by 66 ft. high, and covers an opening of mechanical conveying system, employed in removing grain from vessels. We have furnished similar doors for marine towers of much larger dimensions; one for the Canadian Pacific, at Victoria Harbor, Ontario, 12 ft. wide by 125 ft. high. No. 3. Crane opening 21 ft. wide by 25 ft. high. Pictures taken before crane girders and rails were erected.



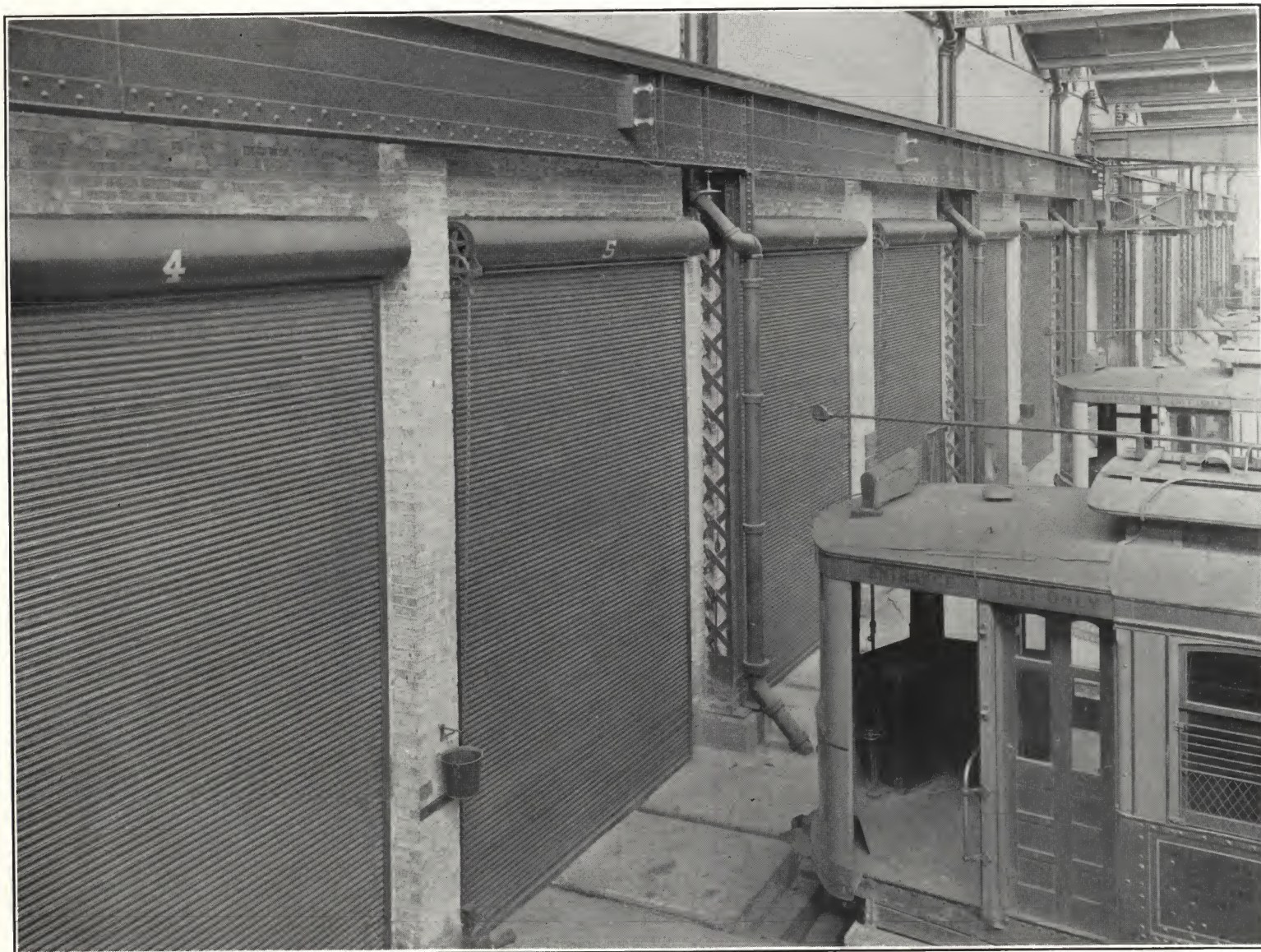
For commercial garages, steel rolling doors will be found convenient, durable and compact, and every foot of floor space in the building can be occupied by the storage of cars.



Views of private garages equipped with Kinnear Steel Rolling Doors. They are fireproof and burglar proof.



For garages Steel Rolling Doors are desirable, especially when they are on a fireproof structure which is occupied by different owners. Their use should result in a reduction of insurance rates. If the interior cannot be lighted by windows or skylights, bi-folding doors are best adapted. When cognizant of conditions, we recommend the style meeting requirements.



Interior Milwaukee Electric Railway and Light Company's Shops, at Cold Springs.



No. 1. Pittsburgh Railways Company, Crafts Avenue Car Barn. Doors are operated by electric motor. No. 2. Chicago Surface Lines, Fortieth Avenue Shops. They occupy both sides of the street and are equipped with 152 Kinnear Doors. No. 3. Chicago Surface Line, Thirty-eighth and Cottage Avenue Station.



No. 1. Municipal Car Barn, San Francisco, located at Geary Street and Presidio Avenue. No. 2. Philadelphia Rapid Transit Company.



Chicago City Railway Company's Thirty-eighth and Archer Avenue Station—Practicability of the Steel Rolling Door. The entire end of the barn can be converted into a series of openings, as above. As the doors occupy and operate in a vertical plane close to the wall or within the wall line, they do not obstruct the sidewalk or waste valuable floor space in the barn. Cars may be set close to the doors. They also afford fire protection. It is obvious that some other type of door is not just as good.



Views 1 and 3. Pennsylvania Freight House, Chicago. By making the sides of the building a continuous line of doors, facilitates freight handling. The necessity of spotting cars is obviated and freight may be received from or delivered to wagons at any point. View No. 2. St. Louis & Southwestern Railway Company's Warehouse, St. Louis.



Pennsylvania Railroad Freight Station, Indianapolis—This building is equipped with one hundred and fifteen Kinnear Steel Rolling Doors, 12 ft. wide by 10 ft. high.



Nos. 1 and 2. Views of the Oregon & Washington Railroad and Navigation Company's Freight House at Seattle. View No. 3. Chicago & Northwestern Terminal Station, Chicago. Steel Rolling Doors have been very extensively used in this structure. Where ground rents are high, the economy of space resulting from their use quickly returns the cost.



Santa Fe Freight Houses equipped with Kinnear Steel Rolling Doors—View No. 1. Los Angeles House, 109 Doors 18 ft. 6 ins. wide by 9 ft. 6 ins. high.
View No. 2. San Francisco House, 137 Doors 19 ft. wide by 9 ft. high.



Municipal Piers, Nos. 38 and 40, Philadelphia, with connecting Bulkheads—Openings equipped with Kinnear Steel Rolling Doors.



Municipal Pier No. 40, Philadelphia—No. 1. Exterior view. No. 2. Interior view, second deck.



Cristobal Docks, Colon, Panama—Views of Pier 10.



Cristobal Docks, Colon, Panama—Nos. 1 and 2. Interior and exterior views of Pier 9. Nos. 3 and 4. Exterior views of Pier 8.



Reproduced from map issued by the Board of Commissioners of the Port of New Orleans, showing Harbor Improvements—Wharf Sheds equipped with Kinnear Steel Rolling Doors are shown in black.

- | | | | | |
|-----------------------|-------------------------|------------------------|------------------------|---------------------|
| 1. Pauline Street. | 5. Gov. Nichols Street. | 9. Poydras Street. | 13. Erato Street. | 17. First Street. |
| 2. Louisa Street. | 6. Dumaine Street. | 10. Girod Street. | 14. Robin Street. | 18. Sixth Street. |
| 3. Press Street. | 7. Toulouse Street. | 11. Julia Street. | 15. Celeste Street. | 19. Harmony Street. |
| 4. Mandeville Street. | 8. Bienville Street. | 12. St. Joseph Street. | 16. St. Andrew Street. | 20. Valence Street. |

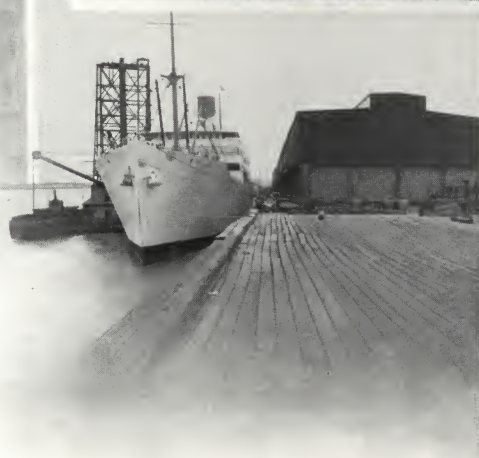
The door installation consists of 1,890 Kinnear Doors, 12 ft. high by 20 ft. wide. If placed side by side, would extend 7.16 miles. There are 5.11 miles of wharves and 3.88 miles of sheds, having a floor area of 2,653,106.



Interior of Press Street Shed—The Port of New Orleans affords excellent traffic arrangements. Ships dock at any point along the wharves. The sheds are paralleled by tracks of the Public Belt Railroad, which connects with the trunk lines entering New Orleans. The continuous arrangement of doors on both sides of the shed greatly simplifies the transfer of freight between cars to ships.



Views of the New Orleans Wharf Sheds—No. 1. Poydras Street Shed. Nos. 2 and 3. St. Andrew Street Shed. No. 4. Robins Street Shed.



New Orleans Wharf Sheds—Views along the river front. These doors have been in use ten years. They were installed in 1906.



A view of the harbor front of the city of Antwerp, Belgium. Also dock warehouses along the harbor front, on which hundreds of Kinnear Steel Rolling Doors are in use.



Views of San Francisco Harbor—Nos. 1 and 2. American Hawaiian Steamship Company Piers. No. 3. Pier 26. No. 4. Pier 38. No. 5. View taken from an aeroplane showing Piers 26, 28, 30, 32, 36 and 38, all equipped with Kinnear Doors. Pier 40 not shown, has Kinnear Doors, and Piers 16, 18, 20 and 37, now in course of construction, are being equipped.



Interior of Pier 32, San Francisco—All types of doors are subject to accidental damage. The damage to steel rolling doors is generally sustained by the curtain. The Kinnear type is composed of interlocking slats. It is possible, without dismantling the door, to remove the damaged slat and substitute a new one at a small cost. Inexpensive repairs of this character cannot be made on rolling doors composed of corrugated sheets, riveted together, or built-up doors of the swinging or sliding type.



San Francisco Views 1 and 2—Interior of Pier 30. No. 3. Exterior of Pier 32. On Piers 30 and 32 the openings extend from column to column, and are closed by two doors, divided by a horizontal moving post, suspended from a traveler on an overhead track. When the doors are raised and the post is drawn to the side of column, the clear opening available is 29 feet wide by 22 ft. high.



San Francisco Pier—View of Basin between Piers 30 and 32. The openings in the piers and bulkhead are equipped with Kinnear Steel Rolling Doors.



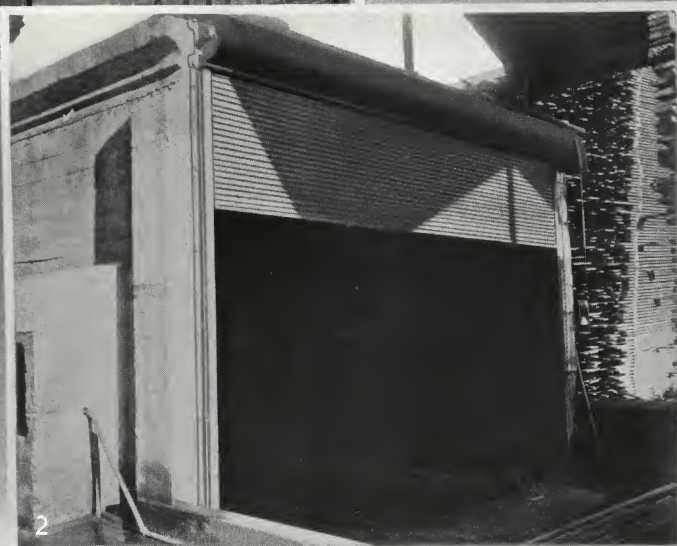
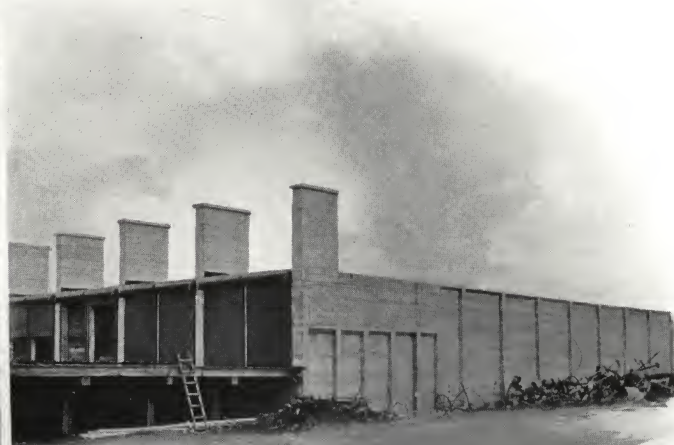
Installations of Kinnear Doors—Views 1 and 2. Piers 40 and 32, San Francisco. View 3. North German Lloyd Steamship Company, Hoboken.



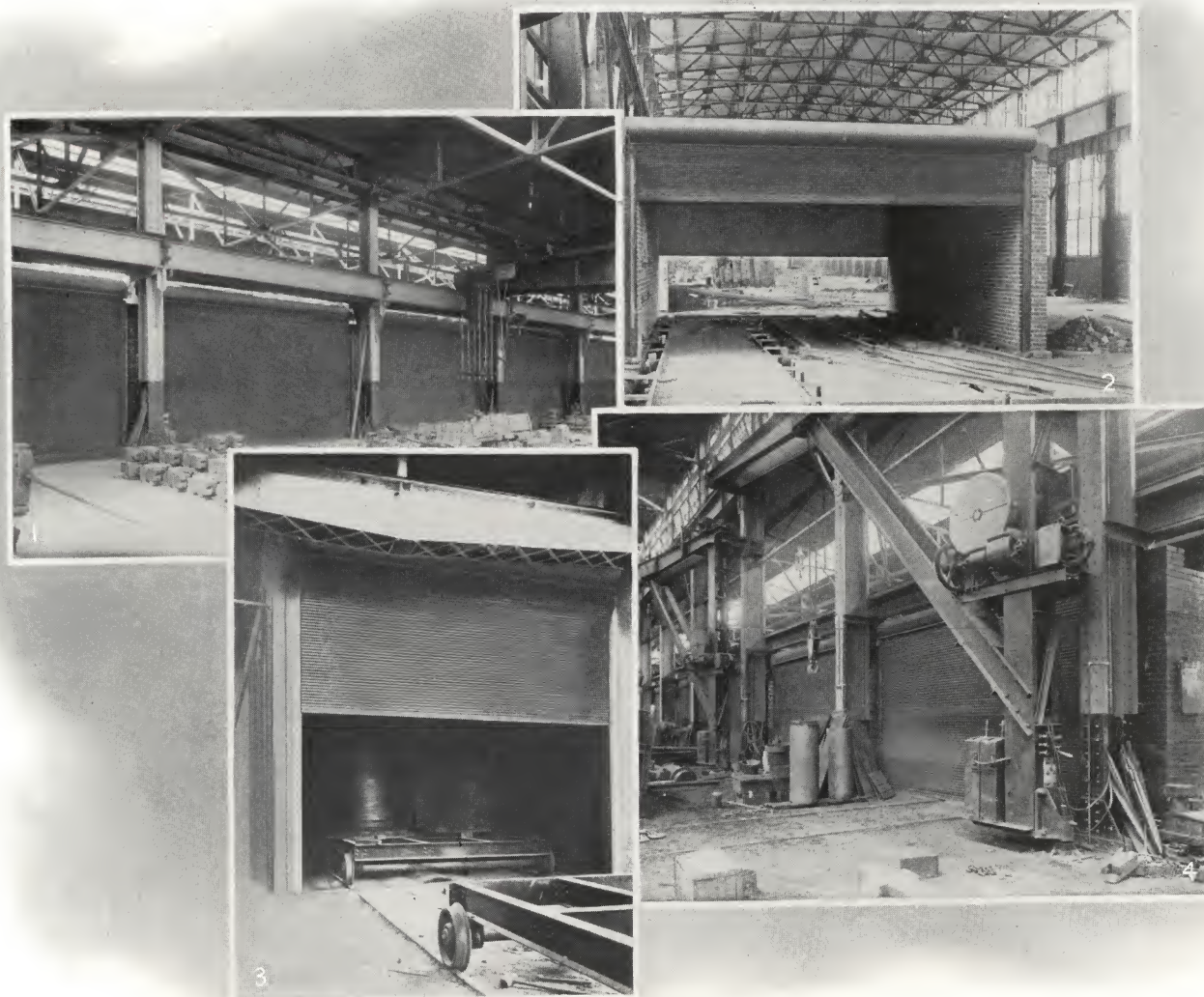
No. 1. Municipal Pier, San Diego, Cal. Nos. 2, 3 and 4. Municipal Pier No. 1, Portland, Ore. Pier No. 2, now in course of construction, will be equipped with Kinnear Steel Rolling Doors.



View of Dry Kilns at the plant of Charles Hafferberth, New York City—Steel Rolling Doors on fireproof kilns will materially reduce the insurance rate.



Views of Dry Kilns equipped with Kinnear Steel Rolling Doors—No. 1. St. Paul & Tacoma Lumber Company, Tacoma, Wash. No. 2. Seattle Cedar Lumber Manufacturing Company, Seattle. No. 3. Dempsey Lumber Company, Tacoma, Wash.



Installations of Kinnear Steel Rolling Core Oven Doors, illustrated and described on Page 63.
Views Nos. 1 and 4. Steel Foundry of the Pennsylvania Railroad Company at Altoona. No. 2. Steel Foundry of the Brylgon Steel Casting Co., New Castle, Dela. No. 3. Allentown Foundry and Machine Company.



GENERAL SPECIFICATIONS FOR STEEL ROLLING DOORS AND SHUTTERS

INSTALLATION: Two forms of installation are generally used in mounting steel rolling doors and shutters.

¶*First*—On face of wall; the coil brackets are placed above the bottom of lintel and the guides at the sides of the opening. ¶*Second*—Mounted in the opening; the coil brackets are placed under the lintel and the guides on the jambs.

OPERATION: Three methods of operation are employed: *Manual*—By means of handle in bottom of curtain. *Mechanical*—By means of endless chain, sprocket and gear; or crank, shafting and gear. *Power*—By means of electric motors.

CURTAIN: The curtain is coiled upon a barrel, journalled in cast iron brackets and travels in guides at the side. It is composed of interlocking slats, formed of open hearth steel, galvanized, in various gauges. The vertical edges are fitted with malleable iron endlocks, which prevent lateral movement of the slats, and serve to protect the curtain from abrasion in the guides. The upper edge of the curtain is attached to the barrel or spiral rings. The bottom is fitted with a bar consisting of angles or two angles and a plate.

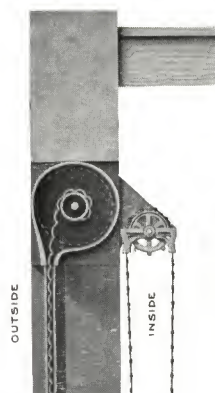
BRACKETS: The brackets for supporting coil are made of cast iron in two types, closed and open; the latter is used when hoods are not required.

BARRELS: The barrel upon which the curtain is coiled is made of steel tubing of sufficient size to prevent excessive deflection. It is journalled in the bracket bearings on steel shafting. It contains the counterbalance springs which are of high grade steel wire oil tempered in helical form. These are mounted upon castings which close the ends of the barrel and protect the springs from atmospheric influences. An adjustment wheel is mounted upon the shaft extending from the barrel and permits increasing or decreasing the tension of the springs, thus facilitating the balancing of the curtain.

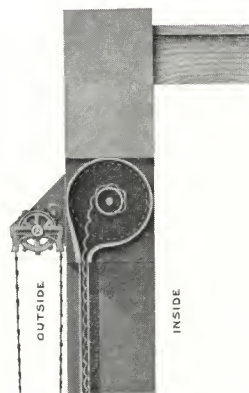
HOODS: Hoods enclose the coil, protecting it from the weather. They are made of steel, galvanized, conforming to the shape of the bracket. Its upper and lower edges are stiffened by the cylindrical formation of the edges.

GUIDES: The guides are composed of steel angles, or angles and plate, securely riveted together. The depth of groove to be proportioned to the width of the curtain.

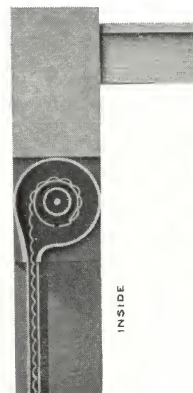
PAINTING: Material to receive one coat of paint at factory.



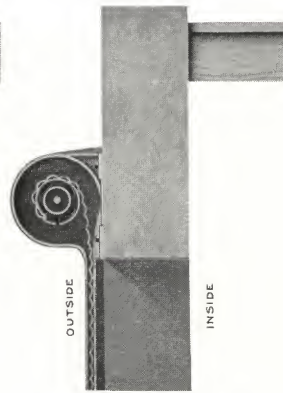
No. 1



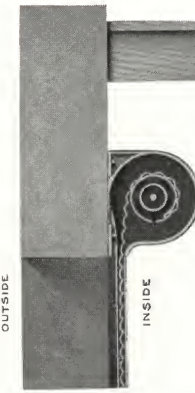
No. 2



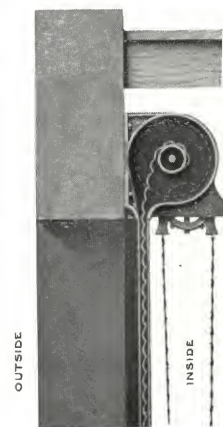
No. 3



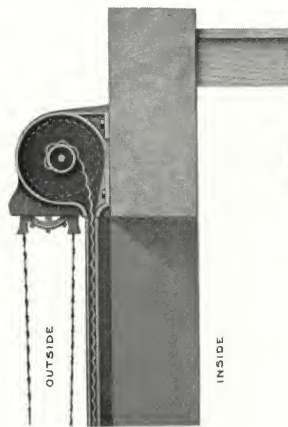
No. 4



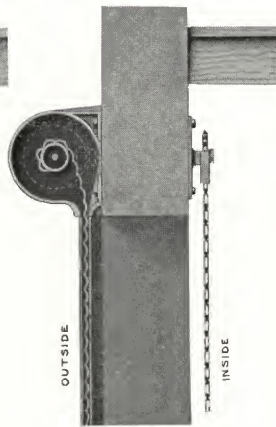
No. 5



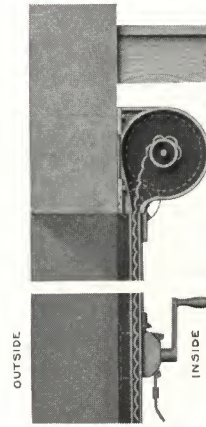
No. 6



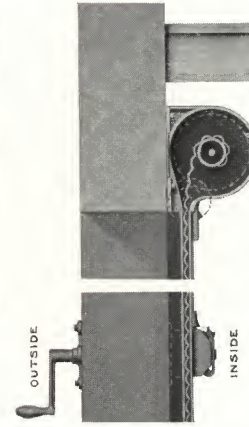
No. 7



No. 8



No. 9



No. 10

METHOD OF INSTALLATION.

The above illustrations show several methods of installation most commonly employed. The predominant features to consider are placement of the coil and grooves and the point of operation. Nos. 1, 2 and 3. Shutters are mounted in openings. Nos. 4 to 10, inclusive. Shutters are mounted on face of wall. Nos. 1, 2, 6, 7 and 8. Shutters operated mechanically by means of an endless hand chain. Nos. 3, 4 and 5. Shutters operated manually by means of handle in bottom bar of curtain.

First: In ordering, state whether the shutter is to be mounted on face of wall or in the opening.

Second: Whether it is to be operated from the interior or exterior of the building.

Third: Whether it is to be operated from the right or left-hand side of opening, stating whether you face the opening from the interior or exterior of the building. Shutters can be furnished operating from both sides; but this adds an extra charge.

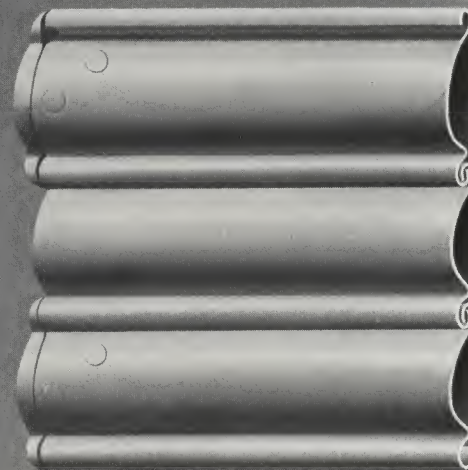
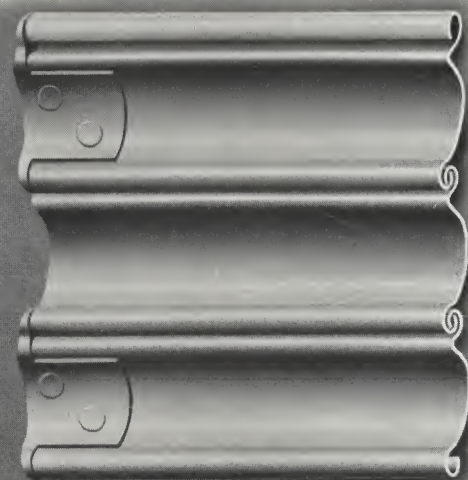
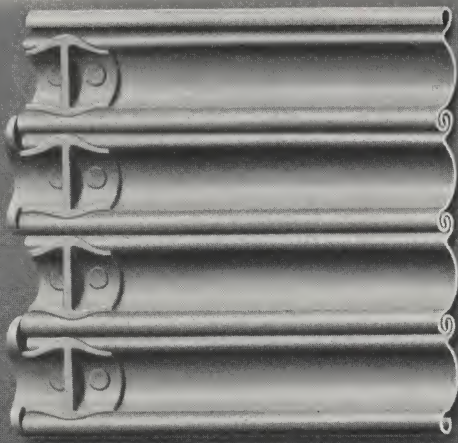
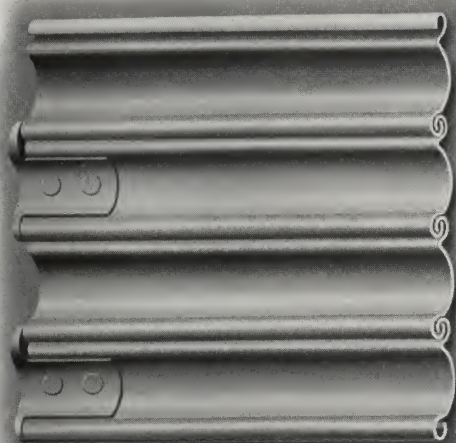


Fig. 1

Fig. 2

Fig. 3

Kinneear Interlocking Steel Slats—Fig. 1. Slat No. 2. Fitted with alternate endlocks. Fig. 2. Slat No. 2. Fitted with continuous endlocks. Slat No. 2 is $1\frac{1}{8}$ " wide on centers; $\frac{1}{8}$ " depth of crown. Made in Nos. 24, 22, 20, 18 and 16 U. S. Gauges. Fig. 3. Slat No. 4. Fitted with alternate endlocks; $2\frac{5}{8}$ " wide on centers; $\frac{1}{4}$ " depth of crown. Made in Nos. 20, 18 and 16 U. S. Gauges. Open hearth steel is used in the slats and malleable iron for endlocks. Joints on the concave and convex sides, as presented to the observer, shed water. This style of slat is freely articulated and best adapted to doors and shutters that are equipped with mechanical operating devices.



Fig. 4

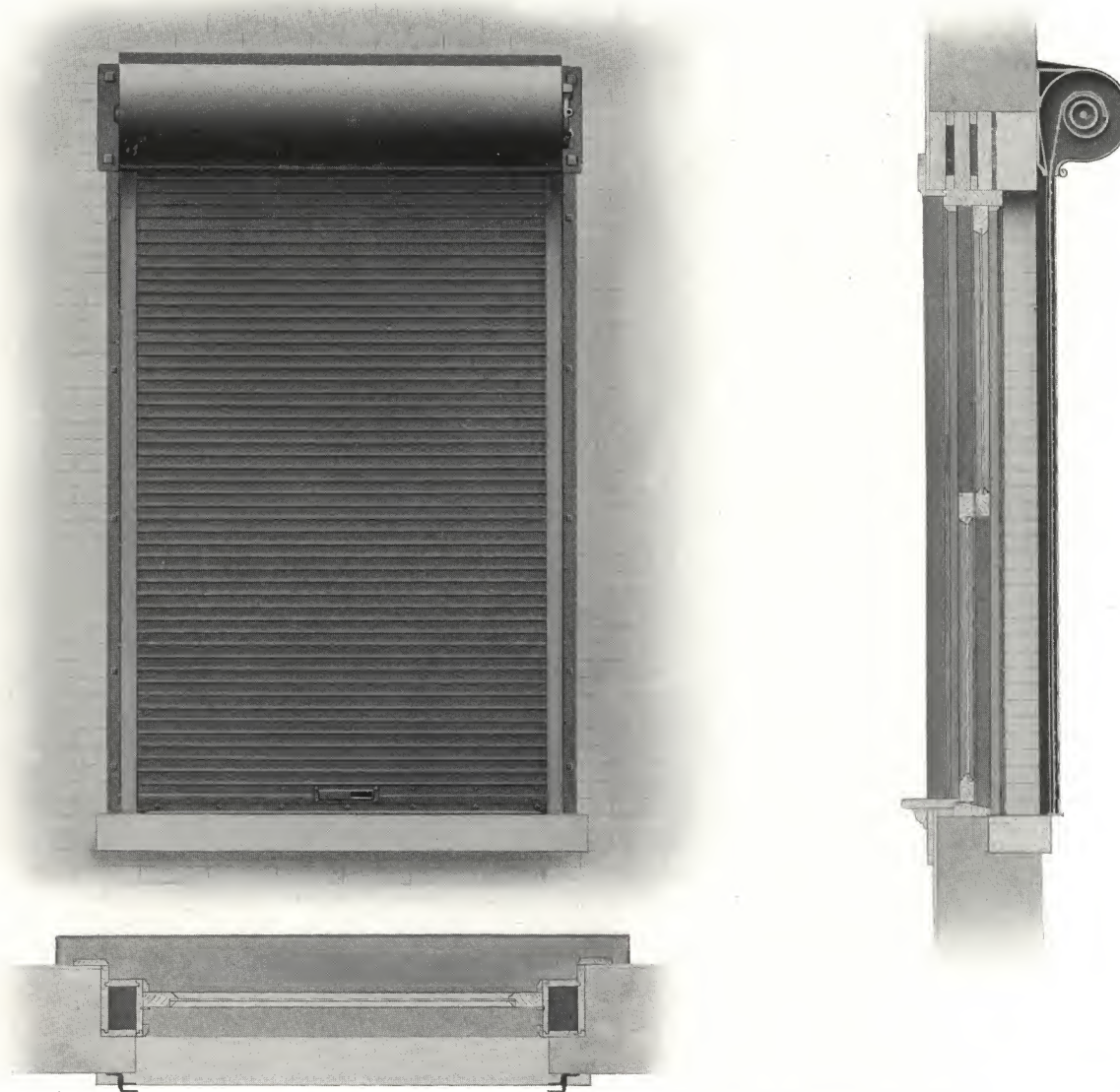


Fig. 5

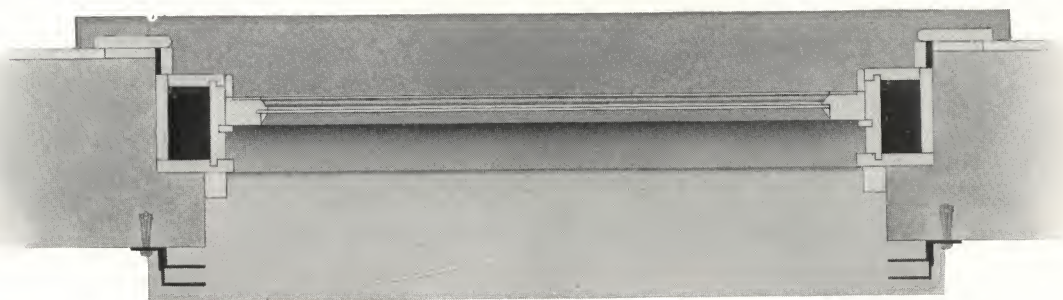
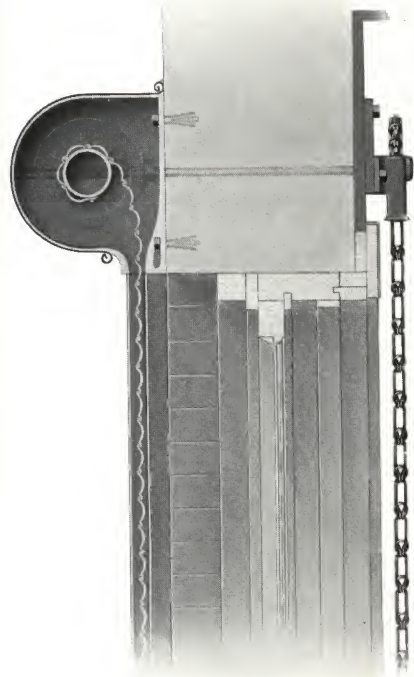


Fig. 6

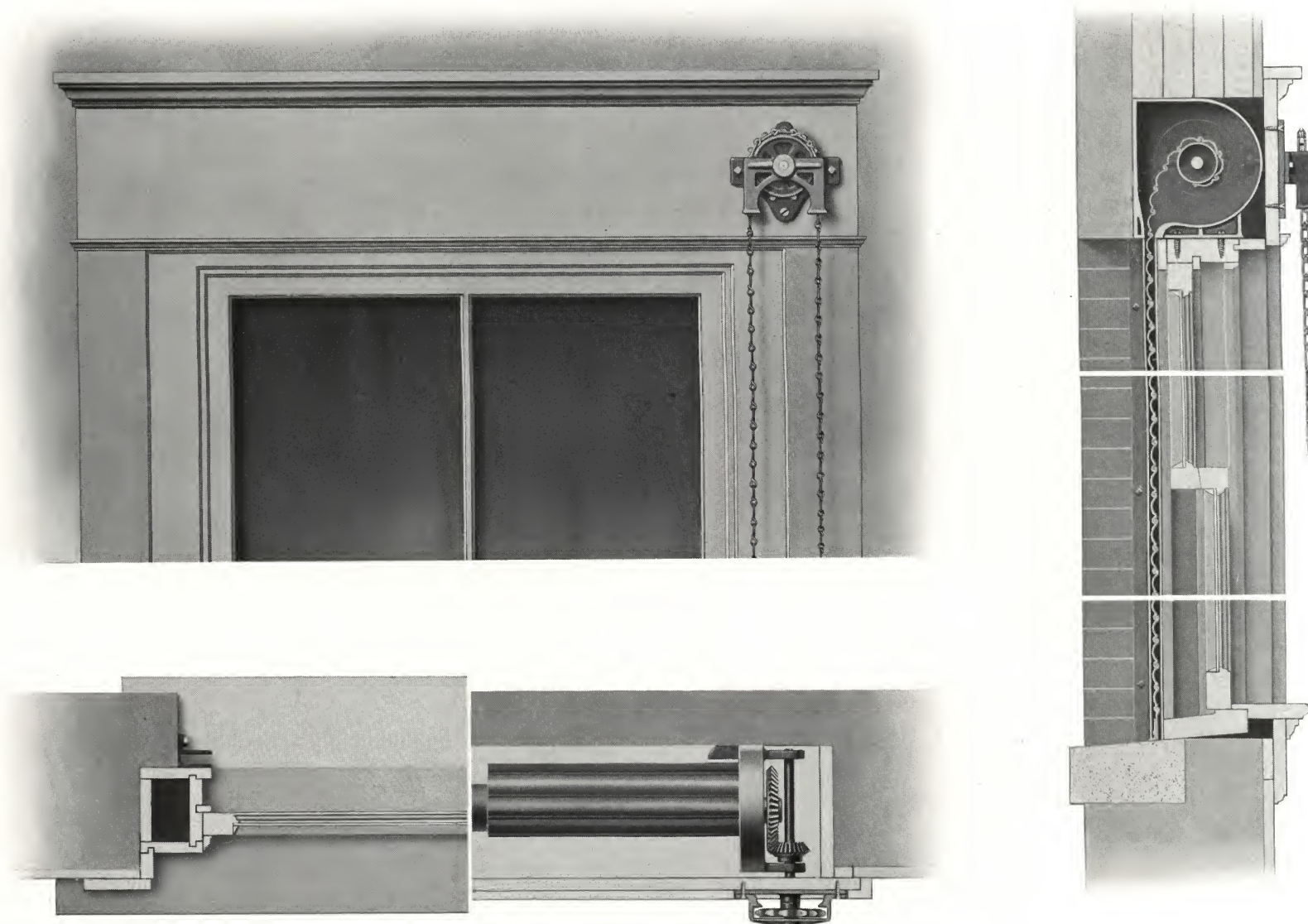
Kinneear Interlocking Steel Slats—Fig. 4. Slat No. 5. Fitted with alternate endlocks; $1\frac{1}{8}$ " centers; depth of crown $\frac{1}{2}$ ". Made in Nos. 22, 20 and 18 U. S. Gauges. Fig. 5. Slat No. 6. Fitted with alternate endlocks; 2" center; $\frac{3}{8}$ " depth of crown. Made in Nos. 24, 22 and 20 U. S. Gauges. The sizes mentioned above, in the U. S. Standard Gauge, are heavier than similar sizes in other gauges. Slats are made of open hearth steel; endlocks of malleable iron. Joint on the ribbed or flat sides, as presented to the observer, shed water. This type of slat designed especially for doors and shutters that are manually operated by means of handle in bottom bar. Fig. 6. This shows flexure of joint. It will be observed that shoulders of the slats are brought into rigid alignment when in perpendicular arrangement. This transmits the force through the curtain without buckling, thus eliminating groove friction.



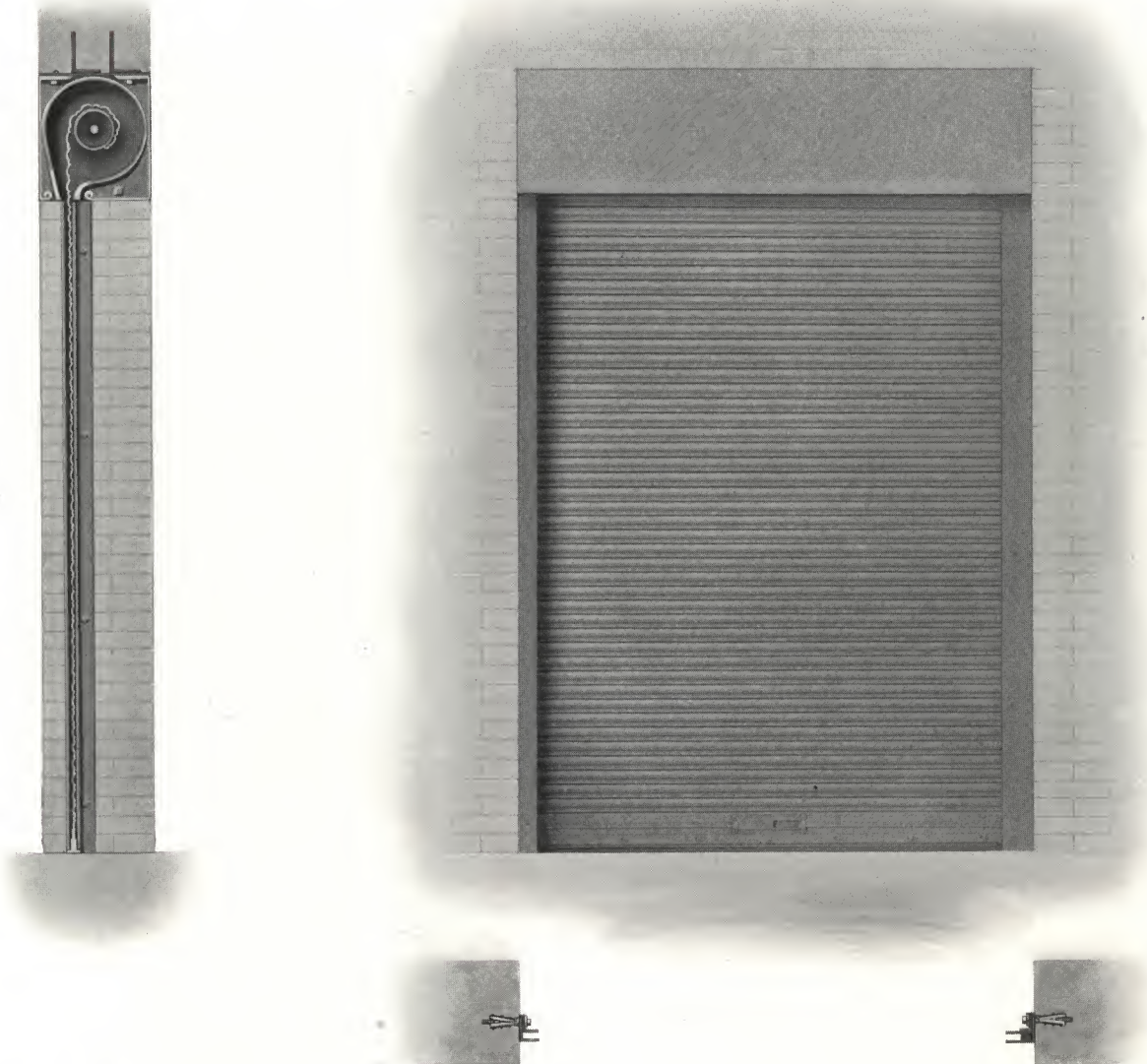
Construction F. M. 70—Shutter mounted on exterior face of wall. Manually operated by means of handle in bottom bar of curtain. Illustration shows shutter composed of Slat No. 6. This shutter can be mounted on interior face of wall if desired.



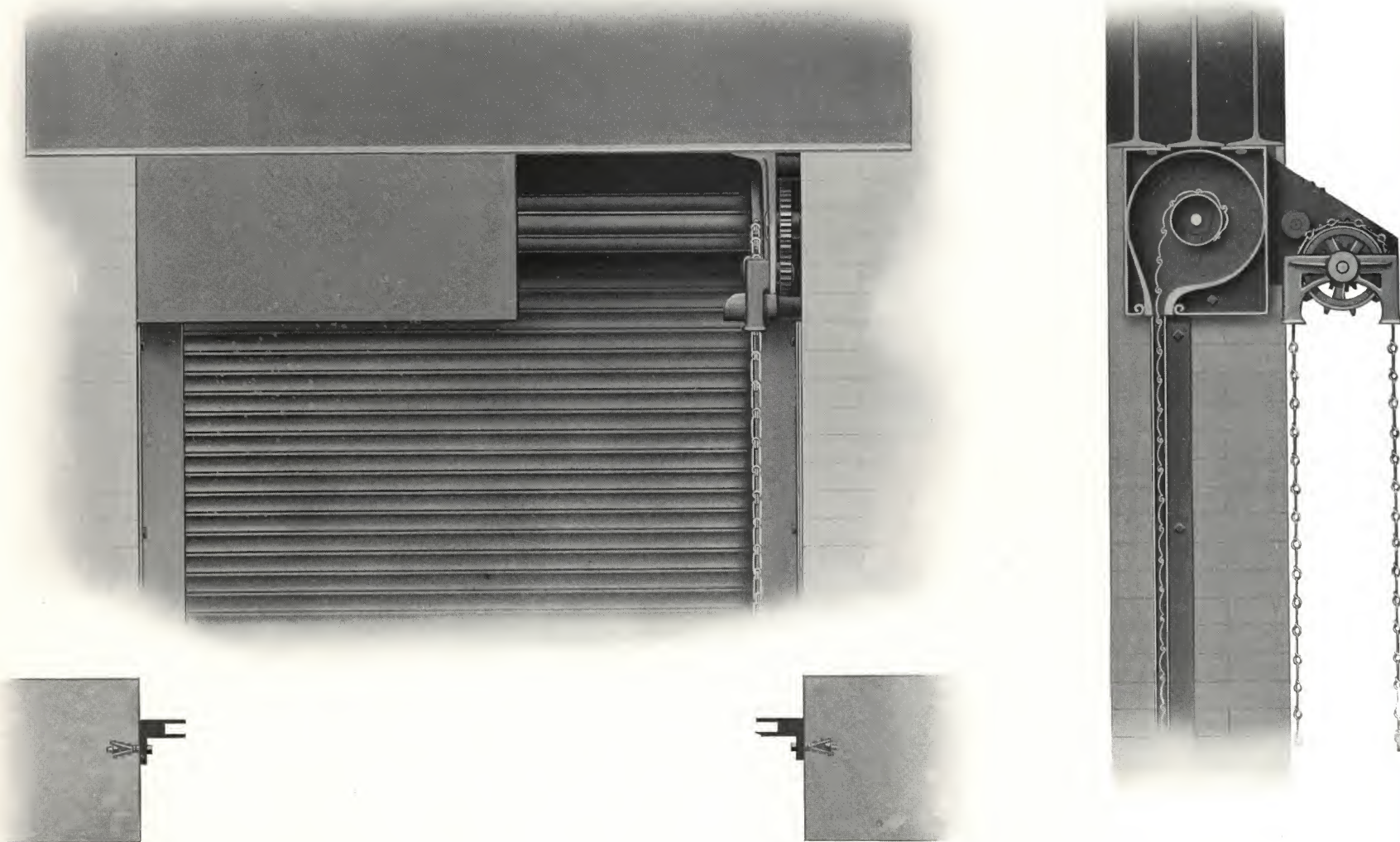
Construction F. H. 60—Shutter mounted on exterior face of wall. Operative from the inside of the building. Mechanism consisting of endless chain, sprocket and shaft extending through the wall, connecting with the shutter barrel by means of bevel gear.



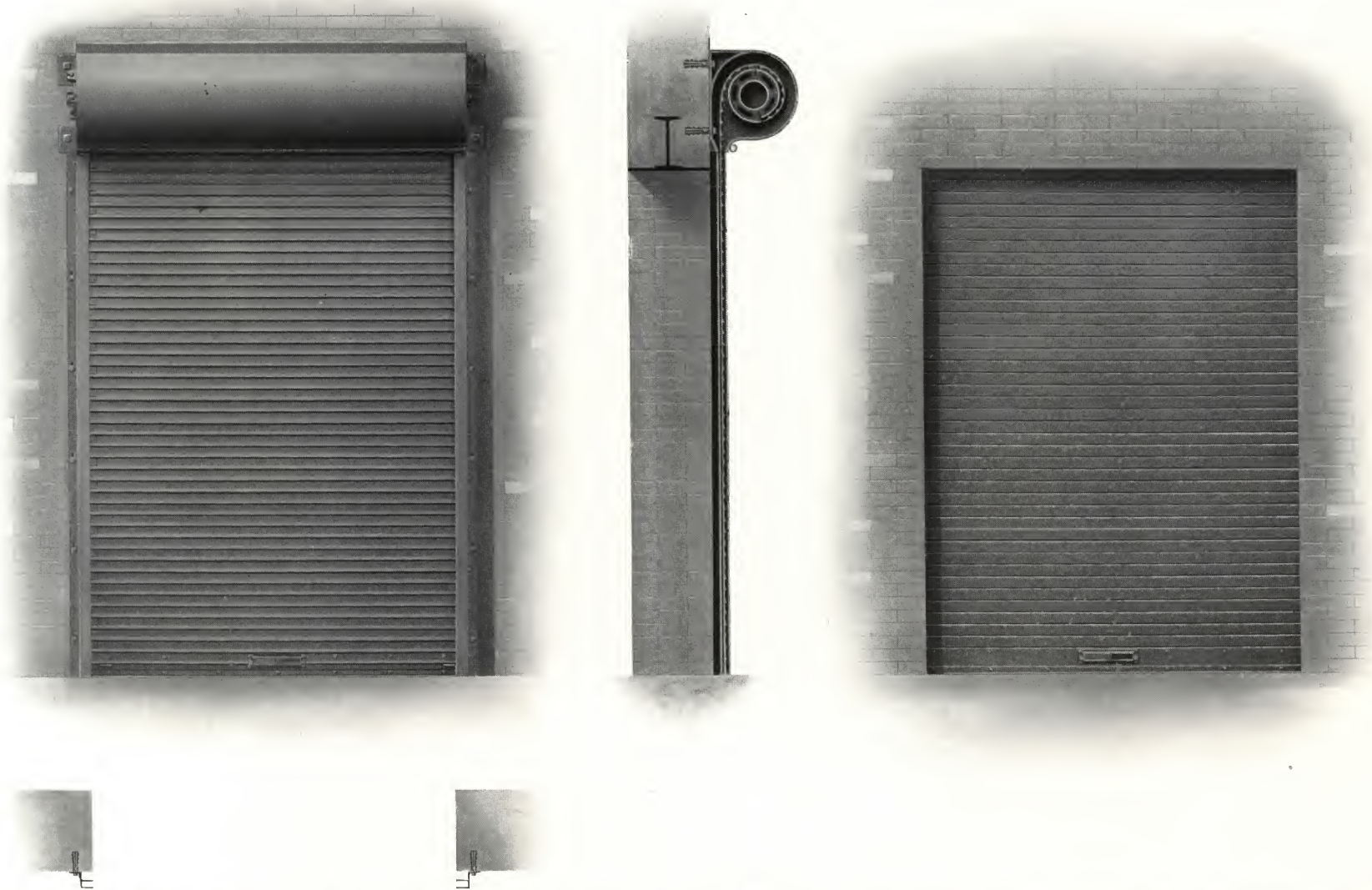
Construction B. H. 40—Shutter concealed; adaptable to new and remodeled buildings. The coil and brackets are mounted above the window frame. The grooves are attached to the brick jambs outside of the frame. Operation is effected by means of an endless chain, and sprocket, mounted on the casing. It is connected to the barrel by shafting and bevel gear. Window frame must set back $1\frac{3}{4}$ " from the lintel to provide aperture for the curtain. The top casing, or panel, should be made removable, to give access to the coil. Medium size shutters can be operated manually, omitting the chain. Details of this design or modifications will be furnished upon application.



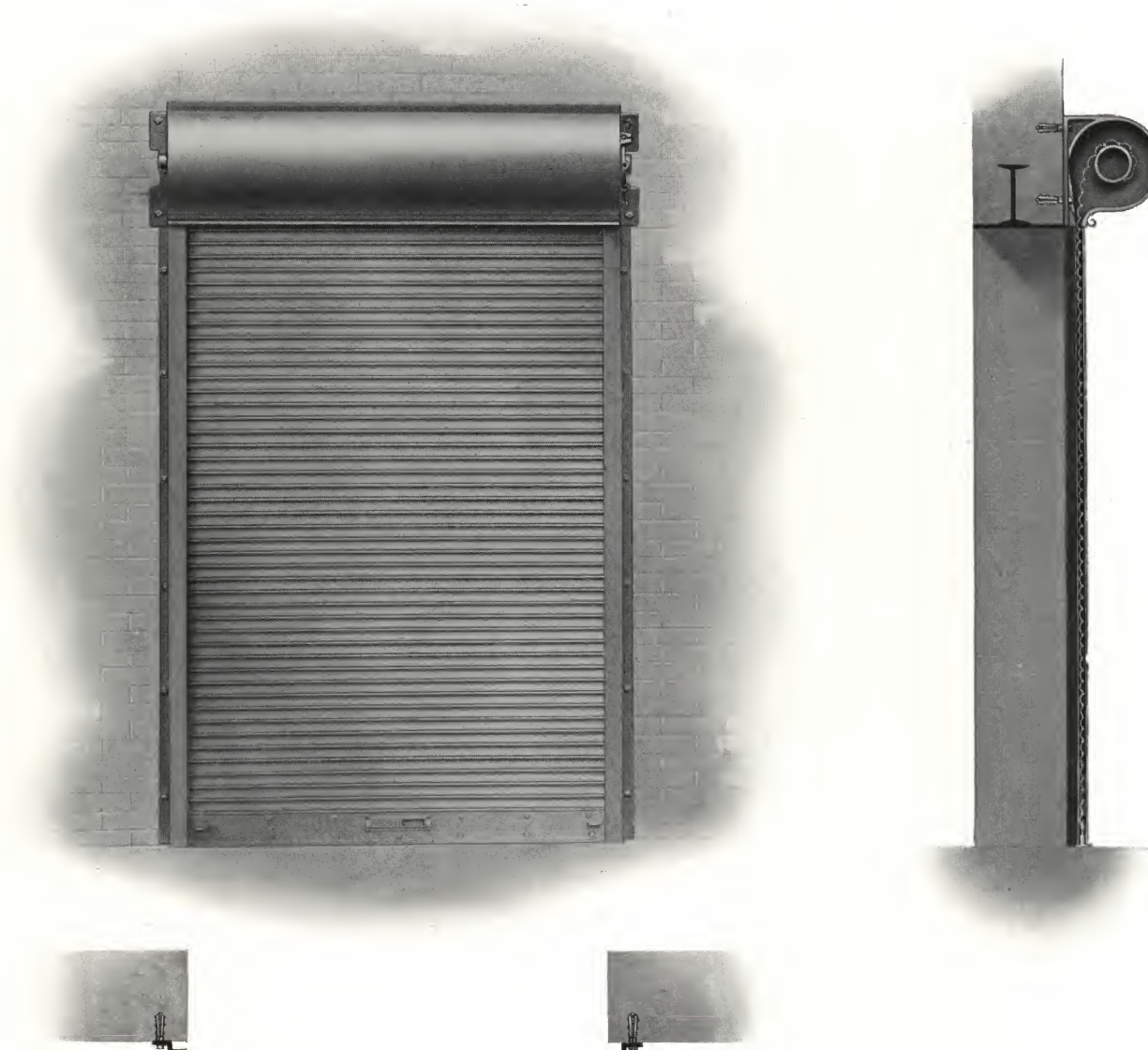
Construction B. M. 10—Mounted in opening. Operated by means of handle in bottom bar of curtain. Fitted with slide bolts when specified.



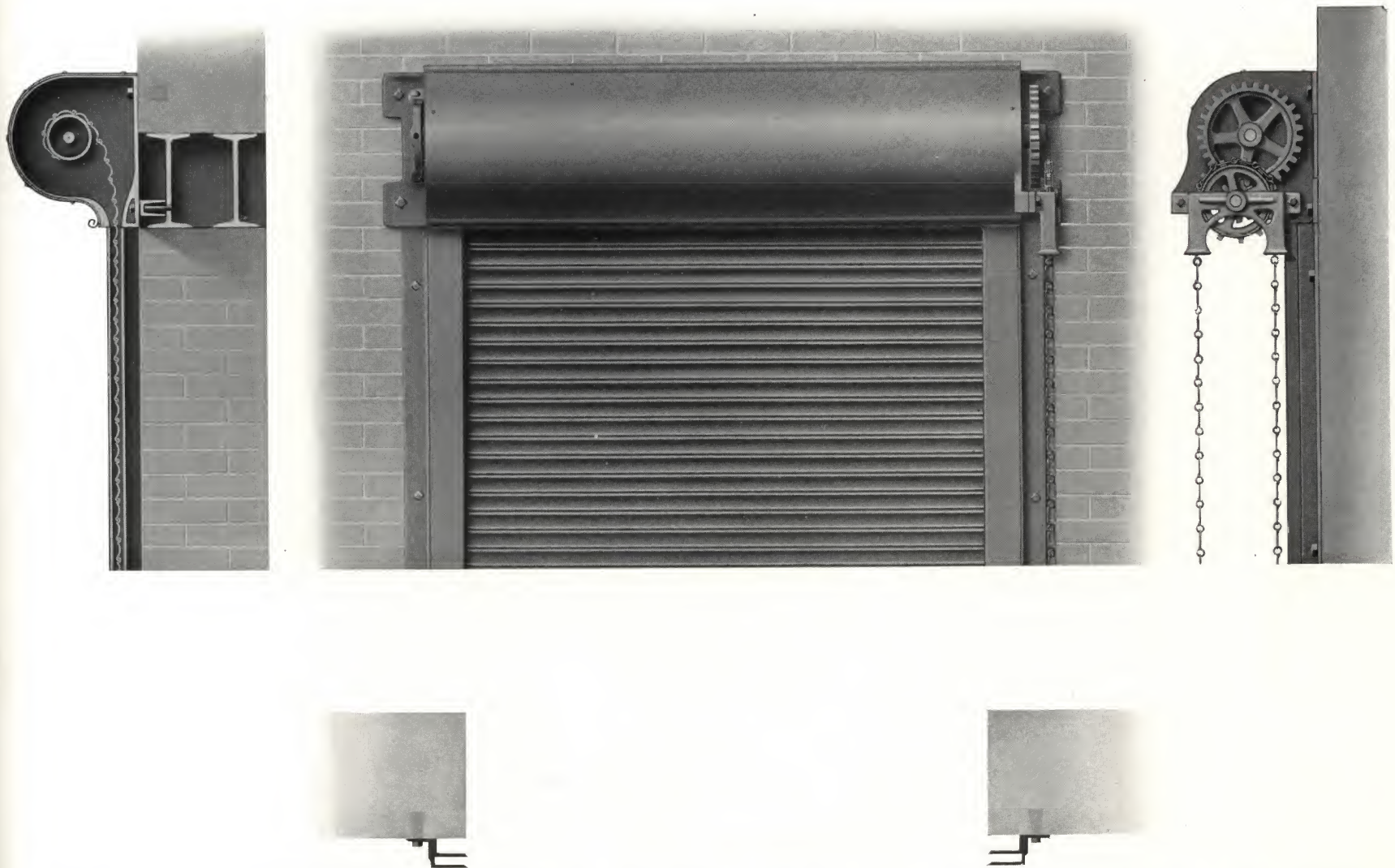
Construction B. H. 20—Mounted in opening. Operating mechanism consists of endless chain, sprocket and suitable reduction gear.



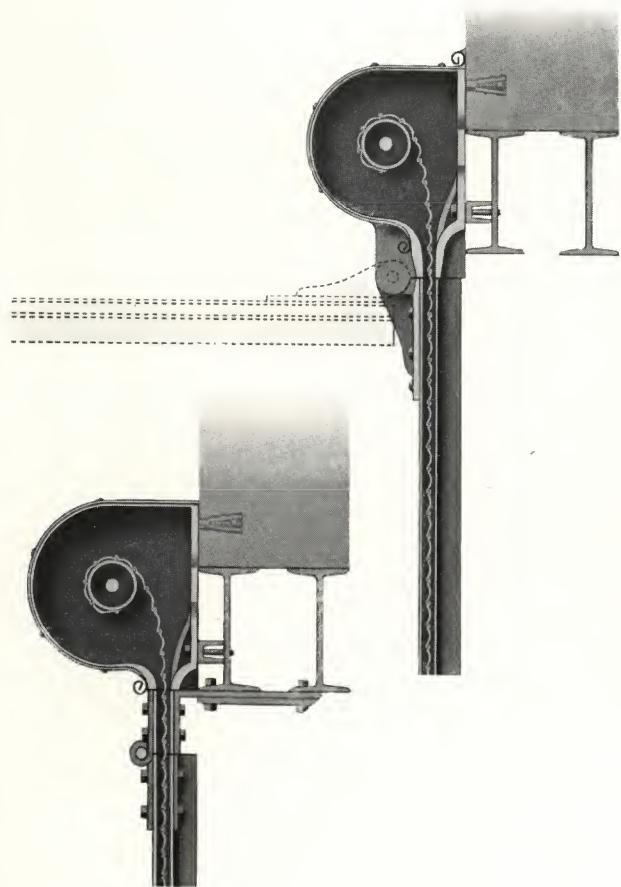
Construction F. M. 10—Mounted on face of wall. Manually operated by means of handle in bottom bar of curtain. Fitted with slide bolts when specified. Above illustration shows curtain composed of No. 5 Slats, designed especially for manually operated doors. The elevation on the left and right show respectively the ribbed and flat sides.



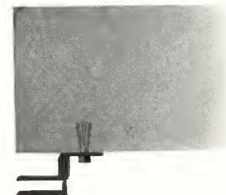
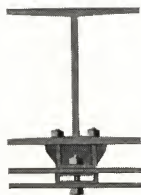
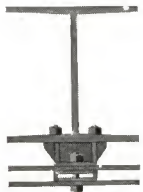
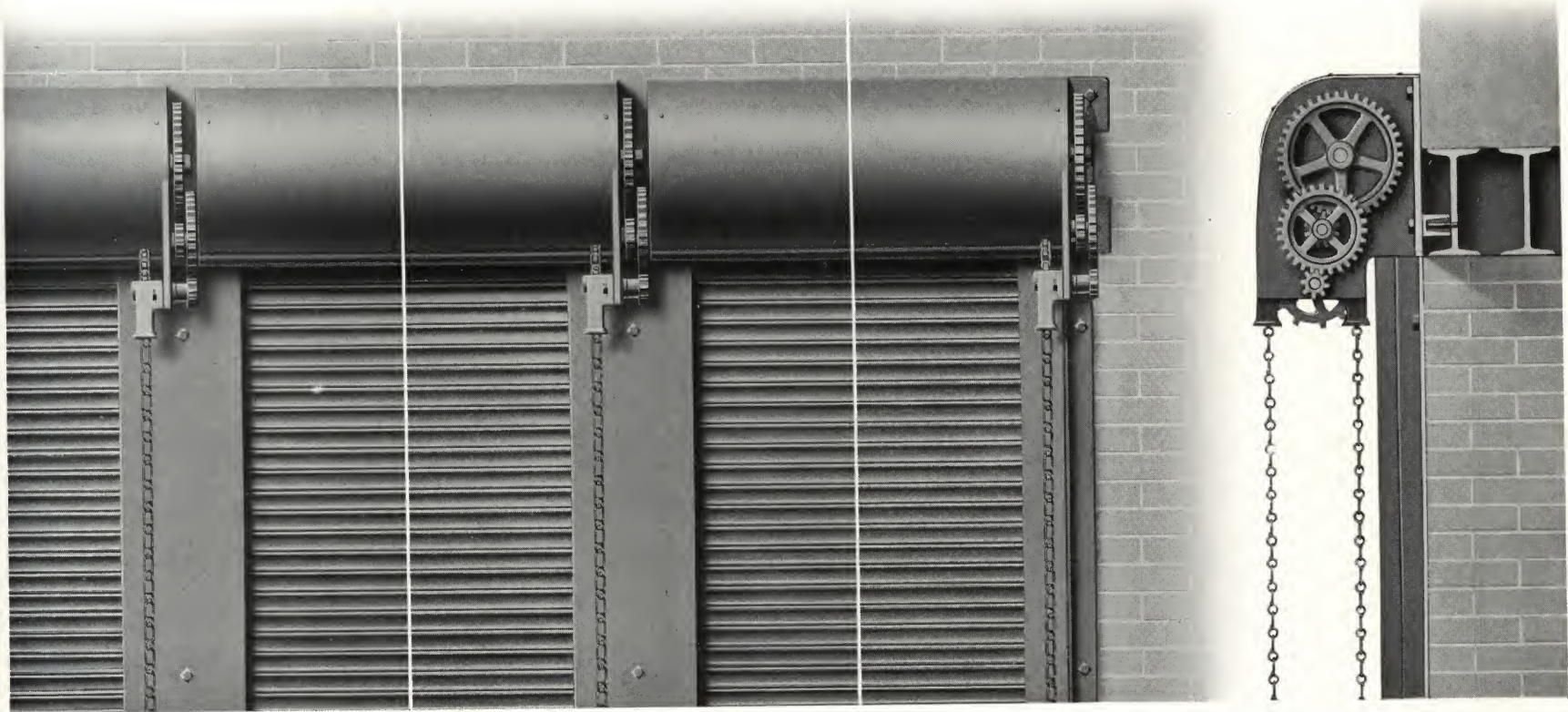
Construction F. M. 10—Door similar to that shown on preceding page, except the curtain is composed of Slats No. 2. Manual operation is necessarily adapted to small and medium size doors; for large doors mechanical equipment should be employed. When doors are placed on exterior face of wall, the deck of the hood is inclined to shed water.



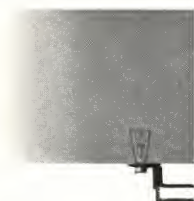
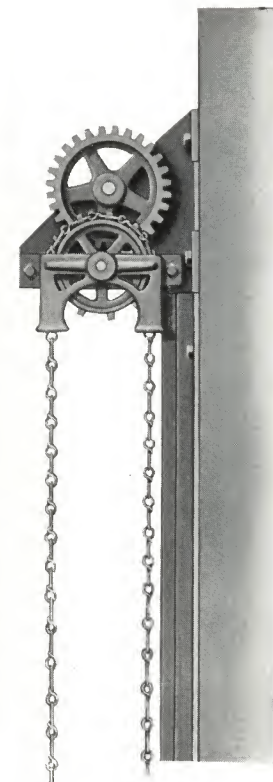
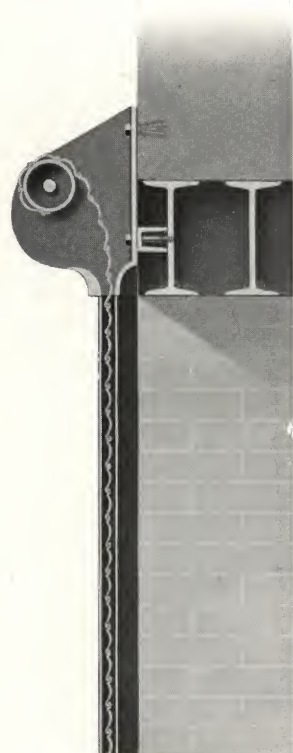
Construction F. H. 20—Mounted on face of wall. Equipped with endless chain, sprocket and gear for operation. Illustration shows curtain composed of No. 2 Slats.



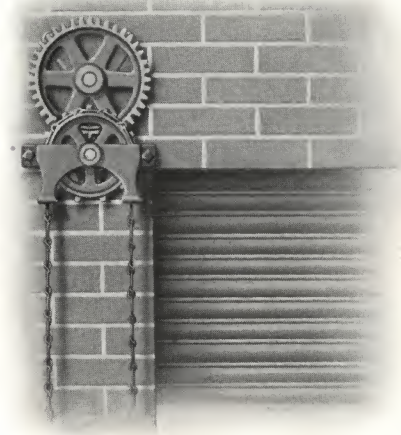
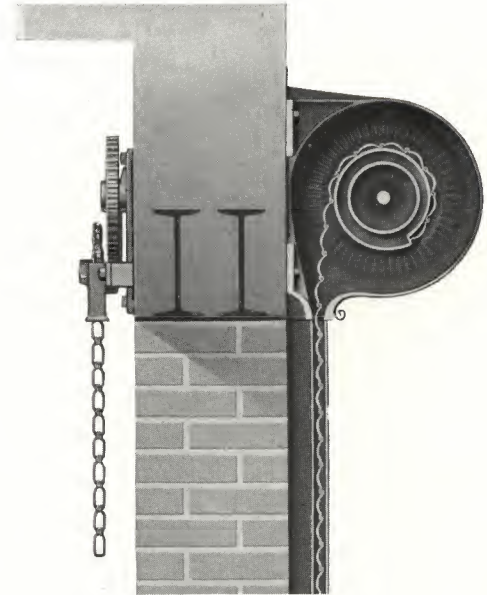
Intermediate Movable Posts—Very wide openings can frequently be more economically closed by a number of small doors than a single large one, using between the doors movable posts with the edges constructed to form double grooves; posts are hinged to the brackets. When the doors are opened the posts are swung up out of the way by means of rope and pulley. This method is commonly employed for car barns, where the tracks enter on a curve and the clearances will not admit of permanent posts. Ordinarily, the posts swing perpendicular to the plane of the curtain, but can be arranged to swing obliquely. We can also supply posts carried by trolley traveling on a horizontal overhead track, moving the post to the side of the opening. This method requires less effort in operating the post, but is a more expensive installation. Details sent on application.



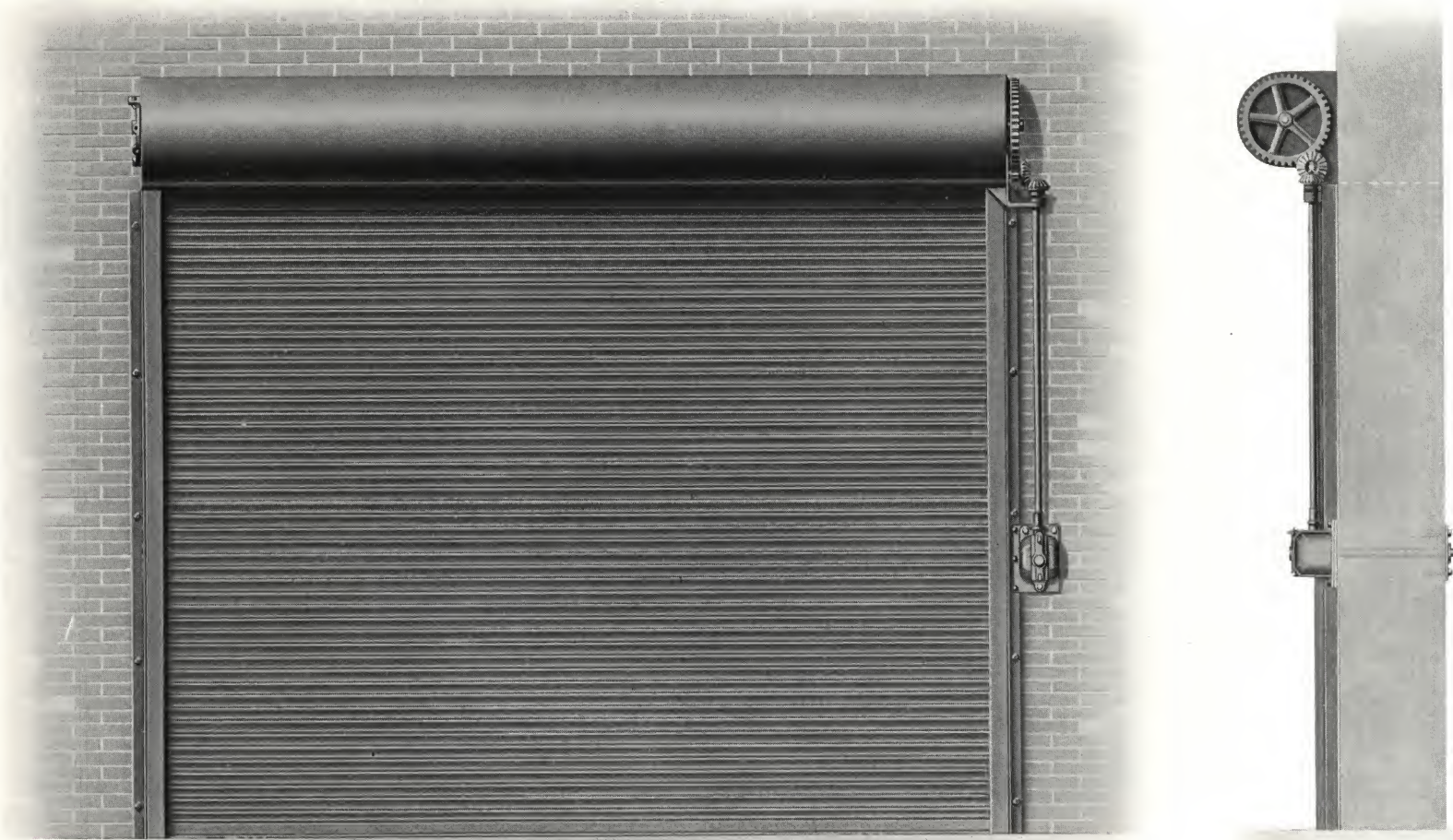
Construction F. H. 23—This is a modification of F. H. 20. A compact design well adapted to large openings, separated by narrow posts.



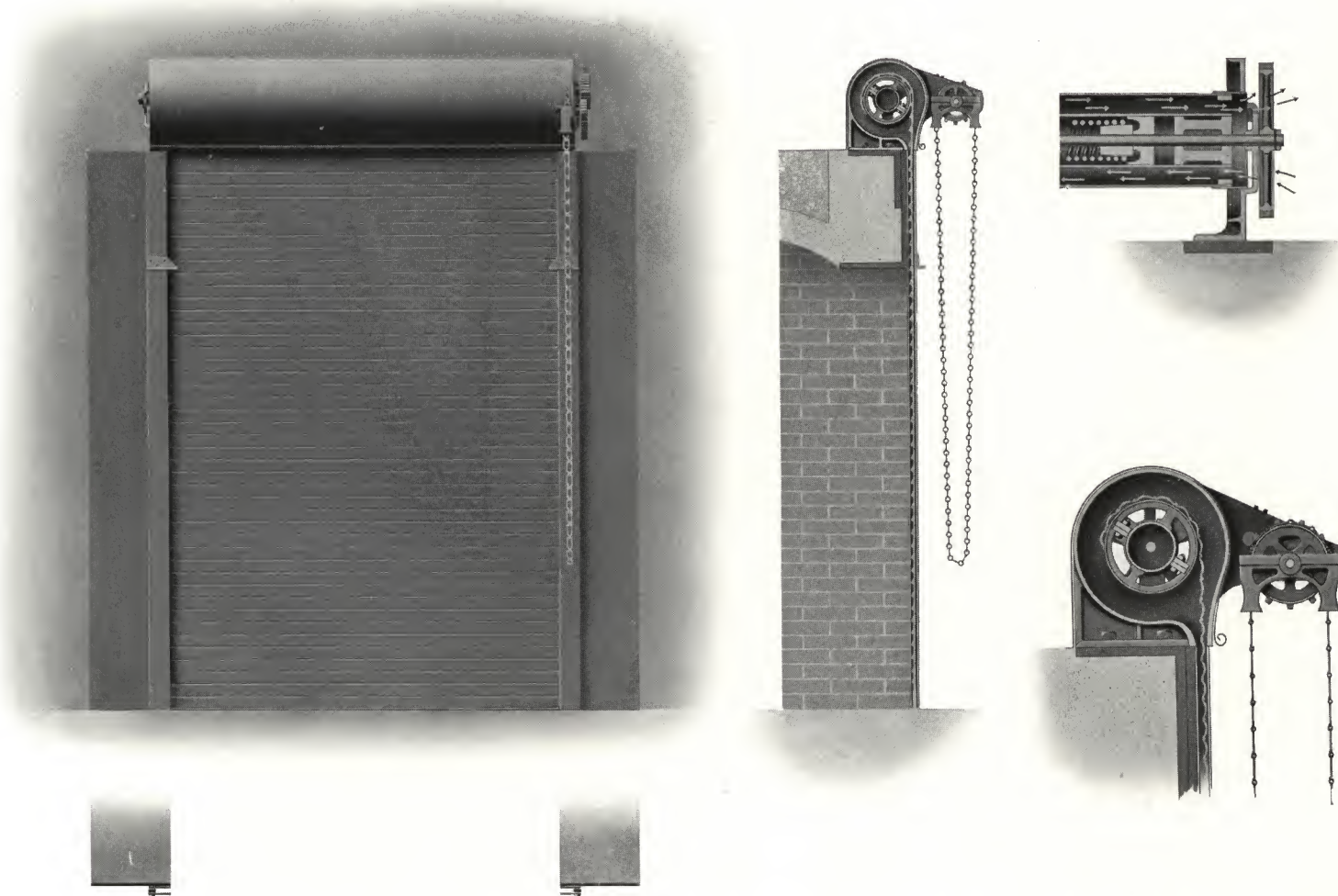
Construction F. H. 30—Mounted on interior face of wall. This construction is not furnished with hoods. The open type of bracket facilitates erection. After brackets are in place the curtain barrel is dropped into the bearings.
Closed brackets necessitate erection of both brackets and barrel together.



Construction F. H. 61—Door mounted on exterior face of wall. Operated from within the building by means of endless chain and gear, connected by shaft extending through the wall. The gear is protected from the weather by housing attached to the bracket.

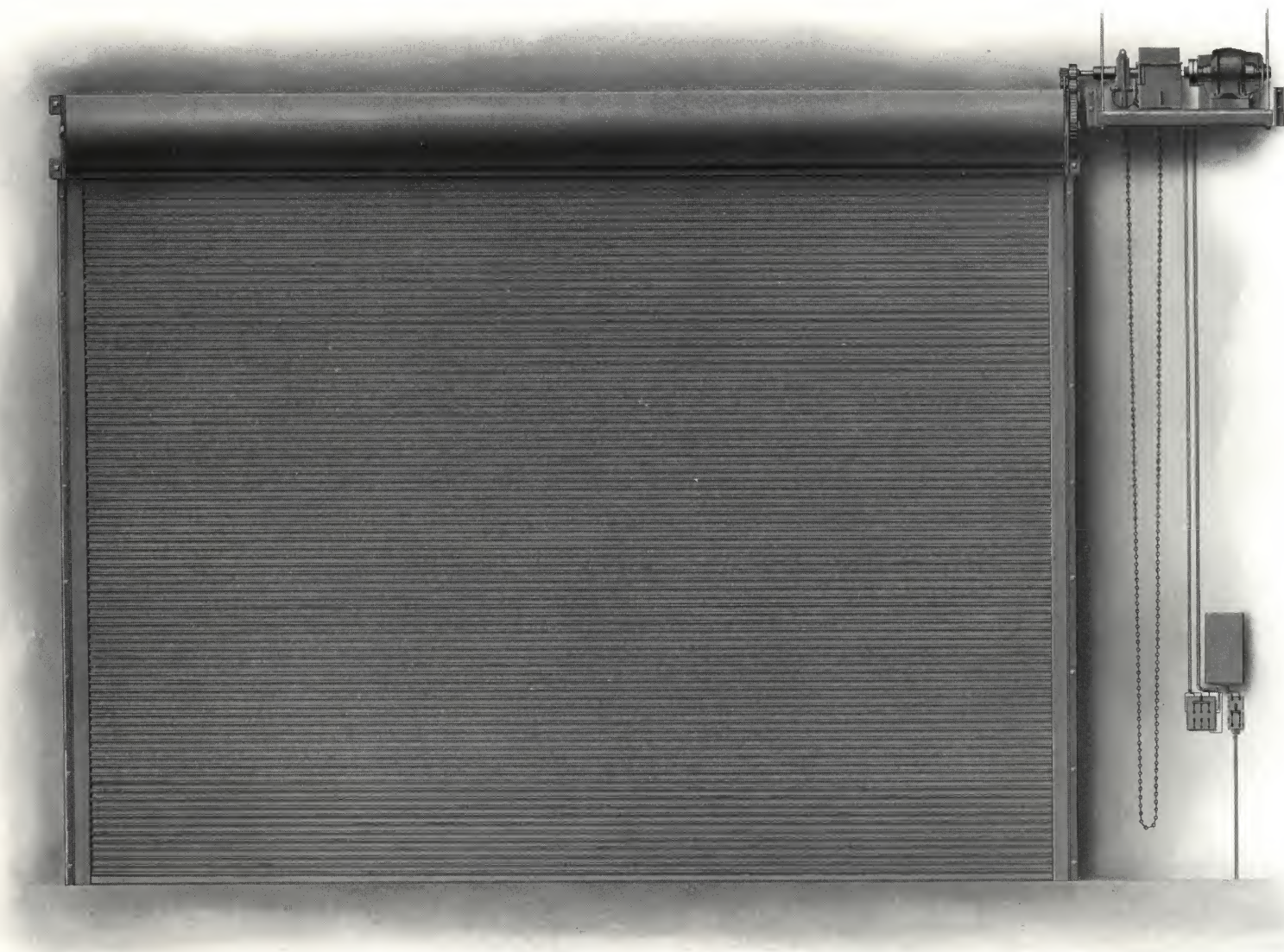


Construction F. C. 20—Mounted on face of wall. Operated by means of crank imparting movement to the curtain barrel through shaft and suitable gear. Door shown in this illustration operated from both inside and outside of building. Standard arrangement, operation from one side only. When ordering, state whether door is to be placed on interior or exterior, and side from which it is to be operated.



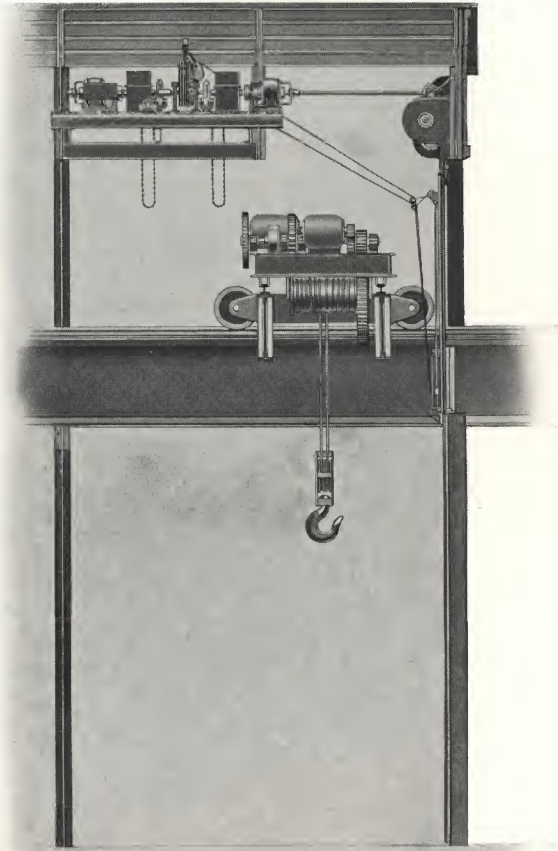
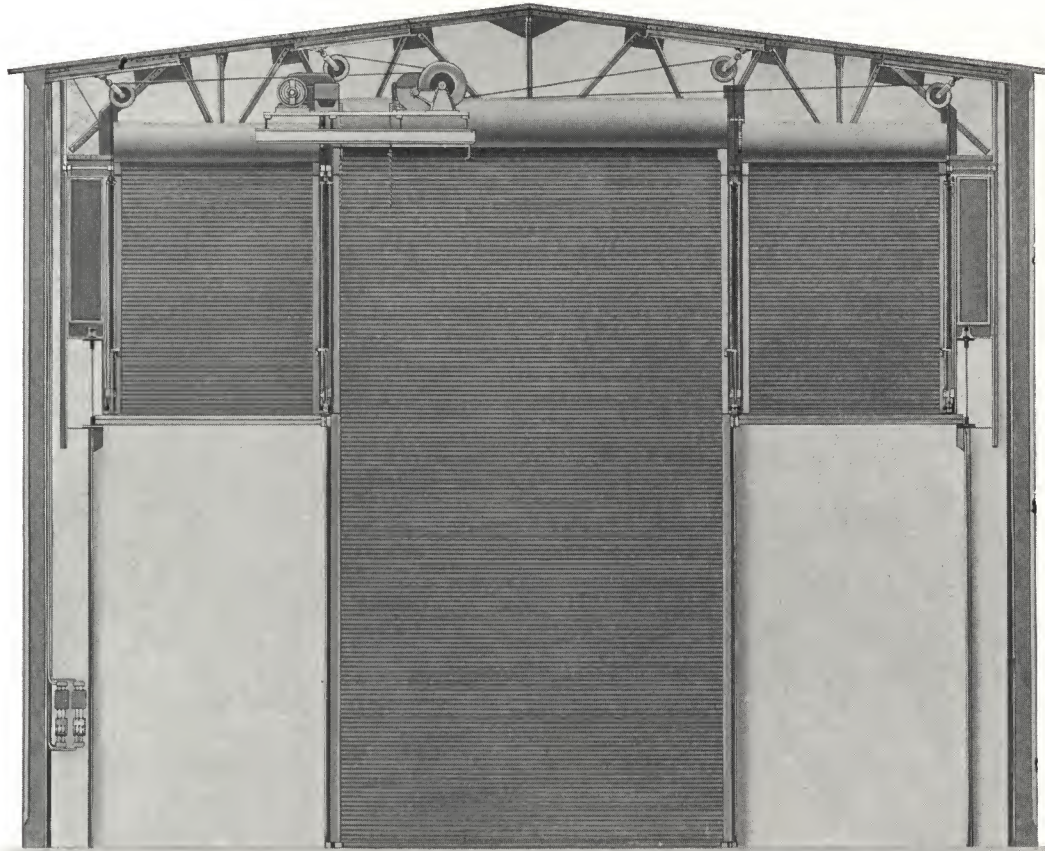
Construction F. H. 41—Core Oven Door. Designed especially for this purpose. Grooves are mounted on face of wall; coil on top of oven. Provided with an endless chain and reduction gear for operating. The curtain is composed of No. 5 Slat, which are excellently well adapted to the requirements. The interlocking joint is flexible in coiling and tight when the curtain is down; the ends of each slat are fitted with malleable pieces which close the hollow sides, thus preventing the escape of heat around the edge of the curtain. They also protect the slats from wear in the groove.

To conserve the temper of the counter-balance springs, concentric barrels, separated by cast iron spiders, are employed. The ends of the barrels extend through the bracket webs, permitting free circulation of air currents between them, the heated air flowing from the space at the top and an equal volume of cold air entering at the bottom. The temperature in the inner barrel does not raise to a dangerous degree. Buckling under heat is prevented by proper methods permitting expansion. In building ovens, bent plates or castings should be provided, on which the brackets can be mounted and attached. Details will be supplied upon application. It is advisable to mention the temperatures that will be maintained in the ovens.



View showing large door operated electrically—The equipment is our Standard Power Unit No. 1. Mounted on a platform, either bracketed to the wall or suspended from the roof, with automatic starter, main line and reversing switches mounted on wall at a convenient point.

The operation is simple and is accomplished by throwing the reversing switch either to one side or the other. The door is automatically stopped by limit switches, and after started does not require further attention of the operator. It is also arranged to operate manually by means of an endless chain which hangs in close proximity to the wall. For further particulars see Page 67.



Crane Openings—The above illustration shows a typical crane opening and the arrangement of door equipment. It consists of three doors supported by brackets located above the lower cord of the truss and attached to vertical web members, which should be provided for that purpose. The posts are hinged to the brackets or the bottom of truss and extend down to the sill. The intermediate posts have grooves on both edges for the curtain to travel in. The side posts have groove on one side only and fitted on the opposite side a paneled section closing the space above the crane rail. From the sill to the floor grooves are attached to the walls for the center door. Posts and curtains are operated by independent motors. The power equipment is our standard unit shown on Page 67, which provides automatic brakes, automatic limit switches and reversing mechanism. The curtains operate simultaneously and can be raised the entire height of the opening, or to an intermediate point. The posts are locked and unlocked automatically by the action of the motor. It will be observed that the cables for lifting the posts are automatically drawn up to give clearance for the crane, which may approach close to the end of the building without interference.

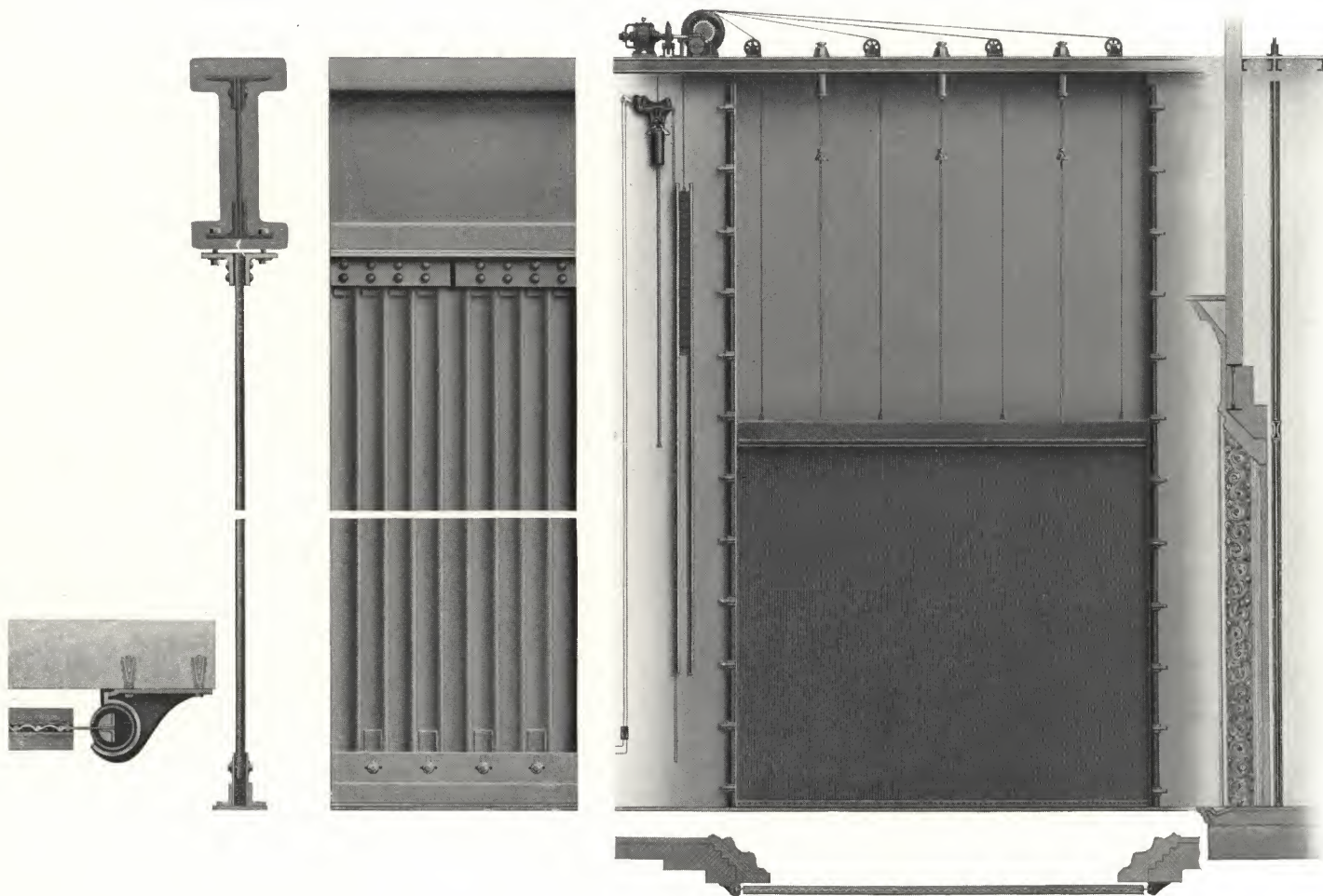


Fig. 4

Fig. 3

Fig. 2

Fig. 1

The Kinnear Steel Theater Curtain illustrated above is composed of interlocking slats, suspended from lattice girder and entering a slotted bar at the bottom. The sides are stiffened by plates and angles which travel in closed guides; angles are fitted with hardwood strips to prevent noise. The lattice girder is protected by 2-inch asbestos fireproofing, securely bolted. Curtain and counterweights are connected by steel cables. This curtain will not buckle under severe conditions of unequal heating. Its connection with the guides makes it impossible to pull out by rush of heated air. Operated by hand or electric power. Is equipped with emergency closing device, which may be actuated by push button from one or more stations. When closed in this manner the impact of descending curtain is absorbed by pneumatic cushions mounted on girder overhead. Correspondence solicited regarding details.

Fig. 1 shows assembly in elevation. A cross vertical section from proscenium arch. Fig. 2. Large section of curtain, girder and bottom bar. Fig. 3. Sectional view of the same. Fig. 4. Sectional view of curtain and guides. See Page 3 for curtain in place.

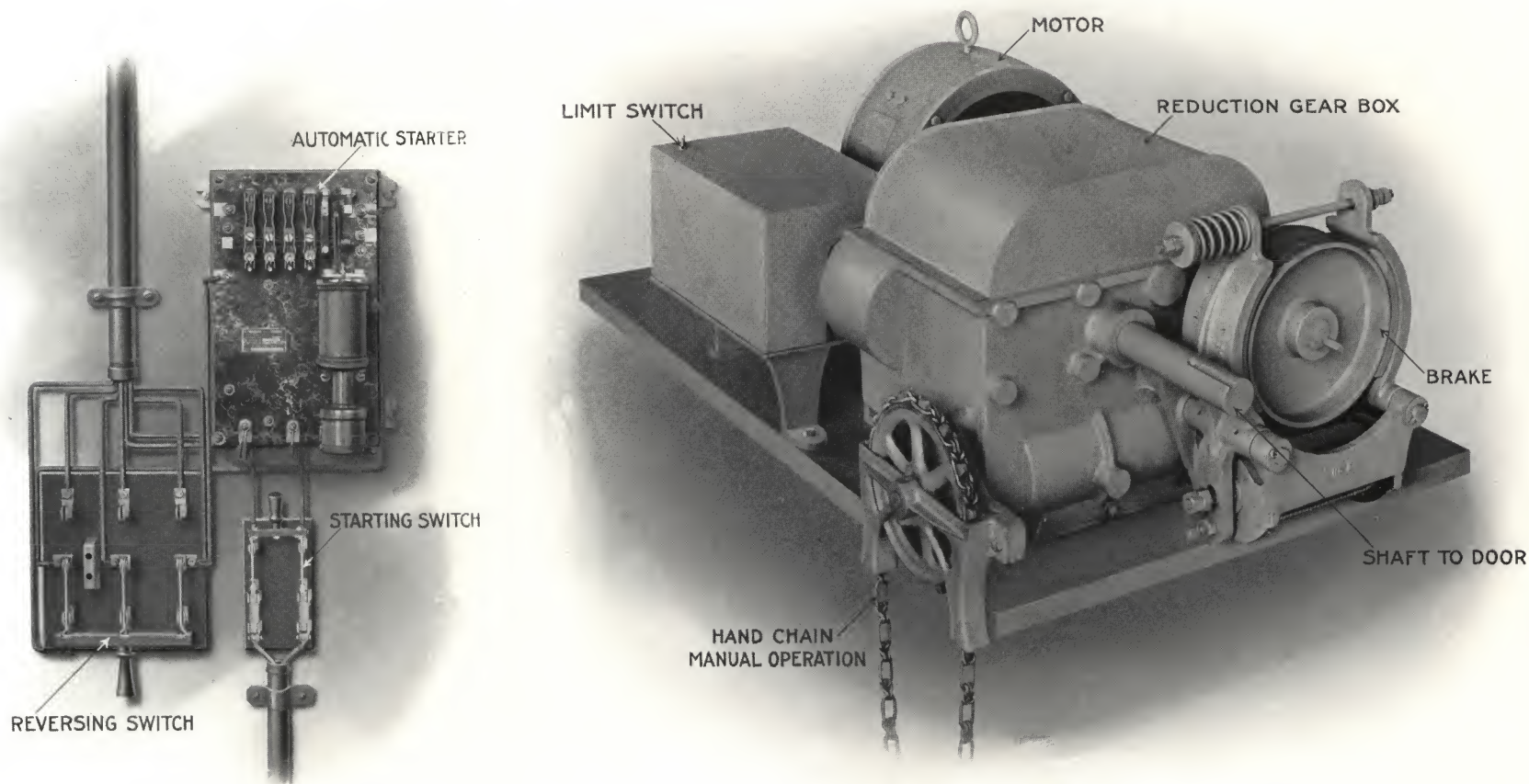


Fig. 1

Fig. 2

Power Unit No. 1—Comprises motor, limit switches, magnetic brake, reduction gear, manual operating mechanism, automatic starter, reversing and service switches. Wiring and conduit are not furnished. This equipment is supplied in the following sizes: Unit No. 1-A, $3\frac{1}{2}$ H. P.; No. 1-B, 5 H. P.; No. 1-C, 10 H. P. Limit switches control the travel of the curtain, stopping it at the proper time, also actuate the magnetic brake and the automatic starter, which breaks the circuit, stopping the motor. The switches are susceptible of precise adjustment. The reduction gear is enclosed in cast iron box; they are cast iron and steel, cut teeth, running in oil bath, the spray lubricating all bearings. Heavy bearings are bushed with bronze; light bearings are babbitted. Fig. 2. Shows the power unit mounted on a platform, usually suspended from ceiling or roof. Fig. 1. Shows the switch and automatic starter mounted on wall at a convenient point. The peculiarity of this mechanism resides in the combination of the manual and power operation through the same gear, either method may be employed without the shifting of clutches. Manual operation is accomplished by means of the endless chain; power operation, by simply throwing the switch, which cannot be thrown the wrong way. No further attention is necessary. The door is automatically controlled and the motor stopped.

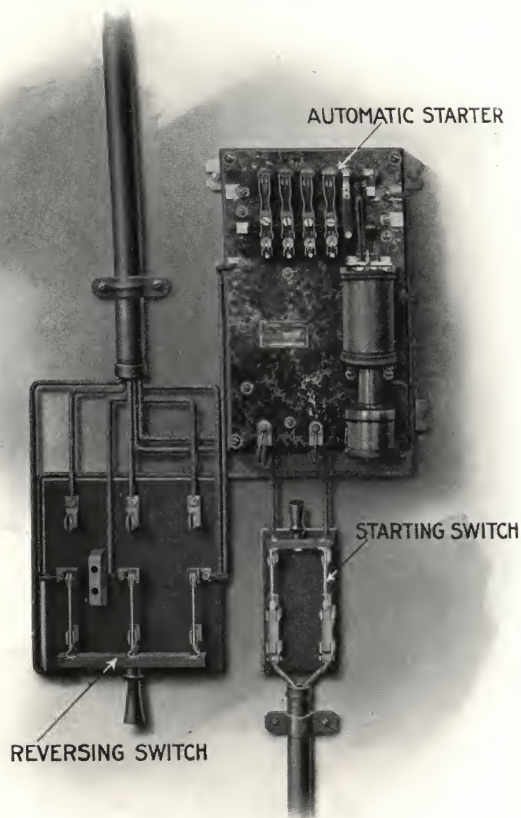


Fig. 1

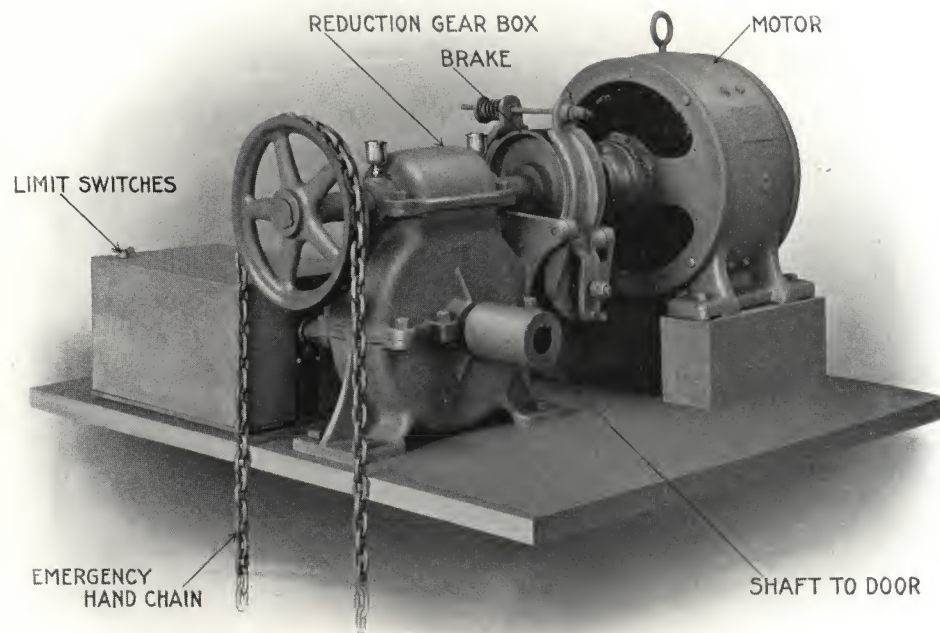
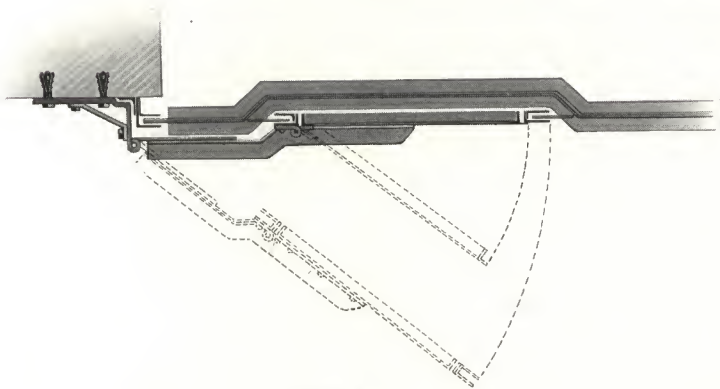
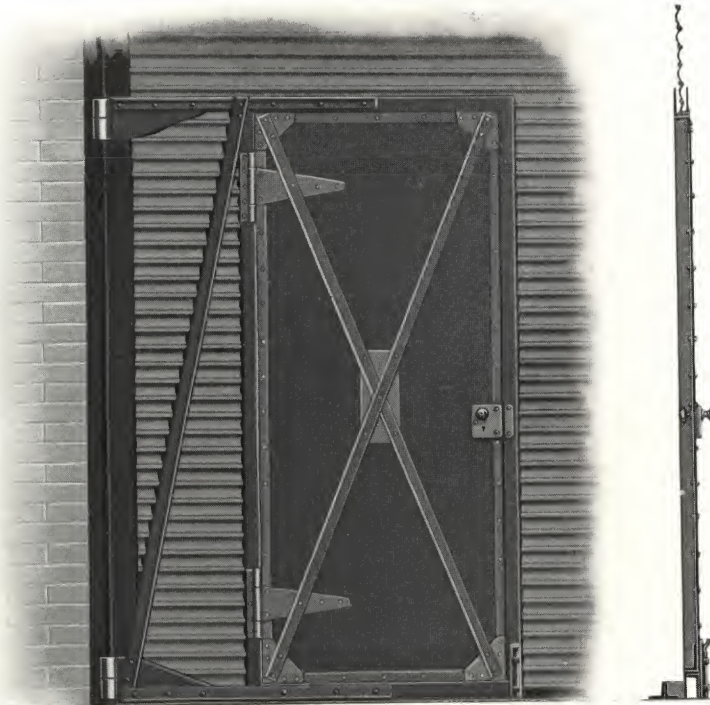
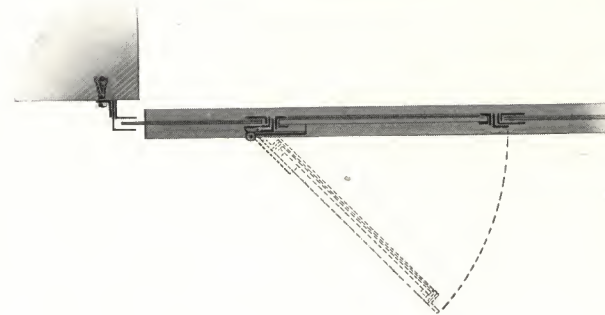


Fig. 2

Power Unit No. 2—Comprises motor, limit switches, magnetic brake, worm reduction gear, emergency manual operating chain, automatic starter, reversing and service switches. Wiring and conduit are not furnished. Supplied in the following sizes: Unit No. 2-A, $3\frac{1}{2}$ H. P.; No. 2-B, 5 H. P.; No. 2-C, 10 H. P. The control of the curtain and motor is automatic, the same as in Power Unit No. 1. This equipment is essentially a power drive; manual operation intended for emergency only, to obtain which the chain is placed on the sprocket and removed again when the motor is employed.



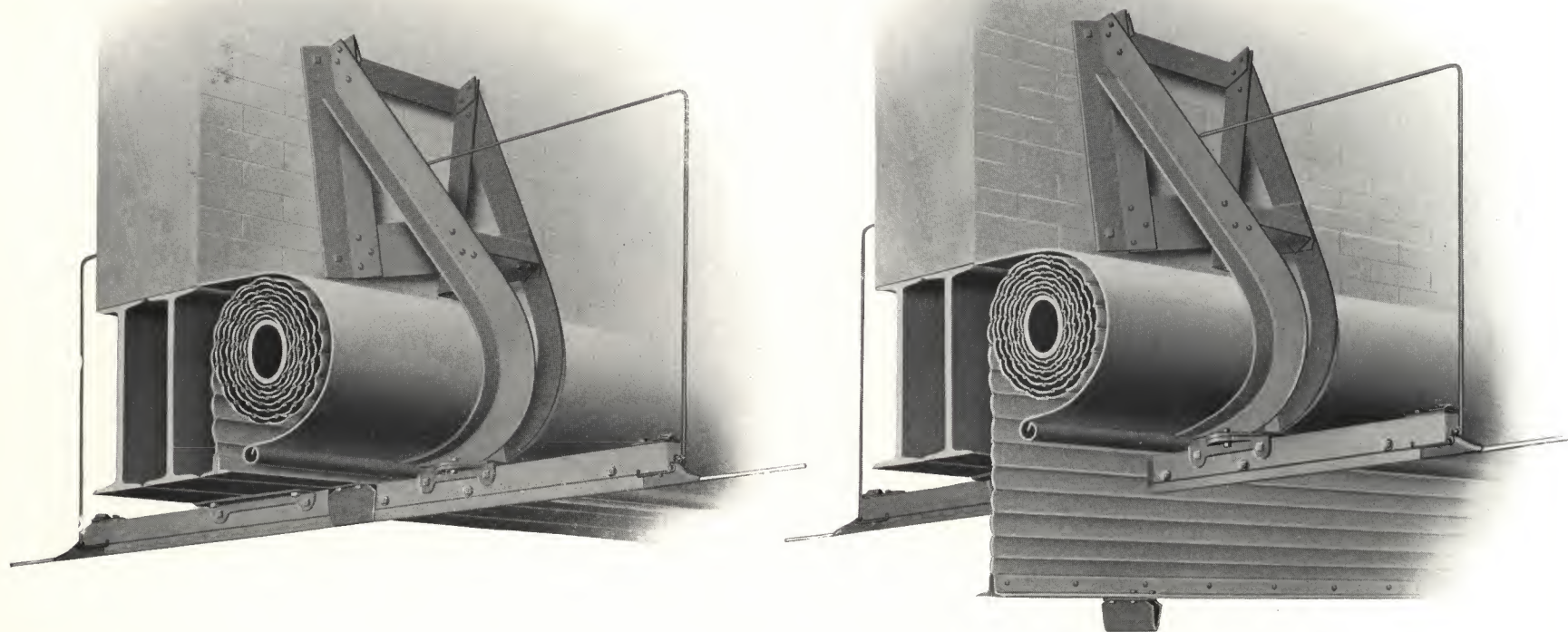
No. 1



No. 2

Standard Wicket Doors—No. 1. The wicket door is hung in a frame hinged to the side wall; the frame is constructed of angles forming grooves in which the rolling door travels. When the rolling door is raised, the wicket door and frame are swung back against the wall.

No. 2. The wicket door is made of slats on an angle frame. It is lifted bodily from the pintels. The vertical framing bars are removed by unscrewing the thumb nuts at the top. The rolling door is then raised.



Trolley Wire Brackets and Insulators—These consist of heavy angle iron brackets encircling the coil and carrying a standard insulator fitted with a brass terminal, to which the trolley wire is fastened. A similar insulator with terminal is fastened under the lintel, the gap between them, through which the curtain passes, being closed by a pressed steel bridge carried on the bottom of door, thus providing a smooth path for the trolley wheel. Electrical connection between inside and outside of building is made by wire through wall. The steel work of the door and building is entirely insulated.



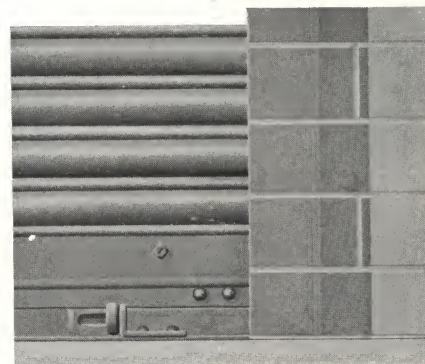
No. 1

Door Inside of Building. Locked on Inside. View from Inside.



No. 3

Door Outside of Building. Padlocked on Outside. View from Outside.



No. 5

Door Inside of Building. Padlocked on Outside. View from Outside.



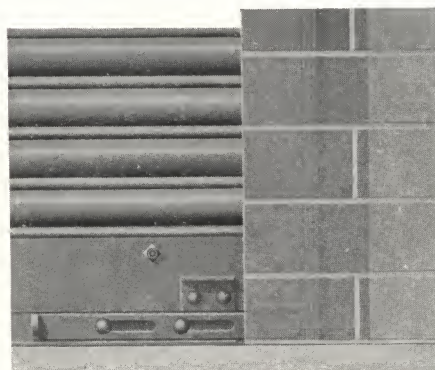
No. 7

No. 3 Slat Lock for Concave Side of Slats.



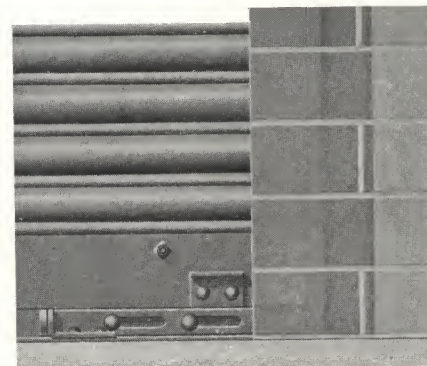
No. 2

Door Inside of Building. Padlocked on Inside. View from Inside.



No. 4

Door Outside of Building. Locked on Inside. View from Inside.



No. 6

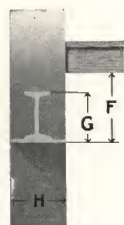
Door Outside of Building. Padlocked on Inside. View from Inside.



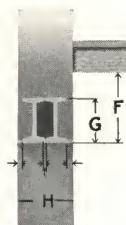
No. 8

Chain Lock.

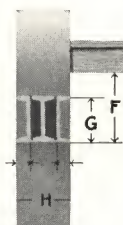
Bolts and Locking Devices—Doors placed on exterior openings are supplied with locking devices, No. 1 on manually operated and No. 8 on mechanically operated doors. Padlocks are not furnished. Interior doors are not equipped with locking devices unless specified.



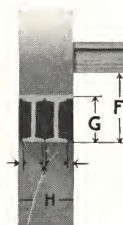
No. 11



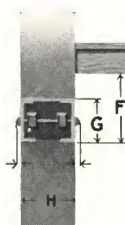
No. 12



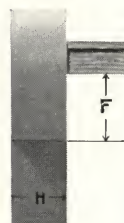
No. 13



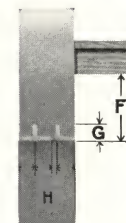
No. 14



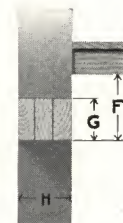
No. 15



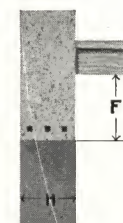
No. 16



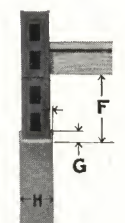
No. 17



No. 18

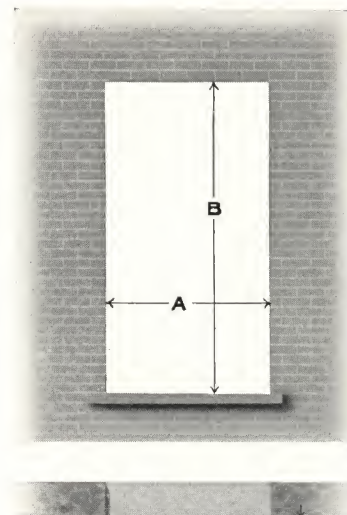


No. 19

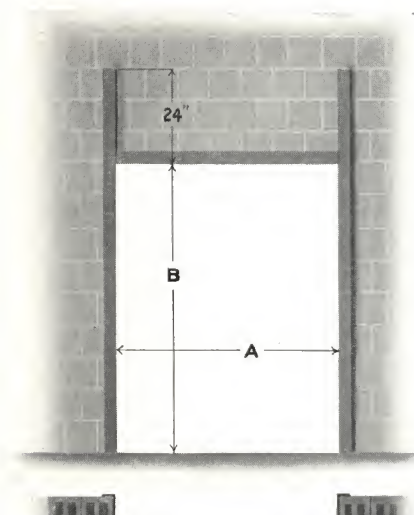


No. 20

SECTIONS THROUGH LINTELS

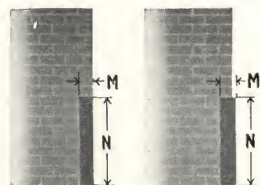


No. 26

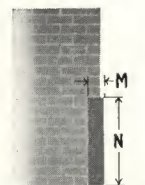


No. 27

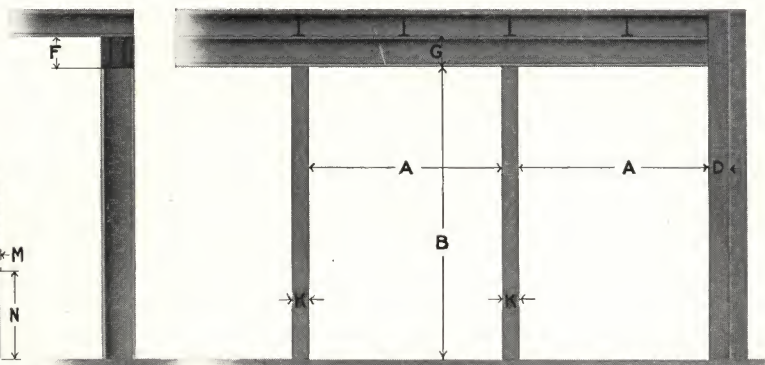
JAMB GUARDS



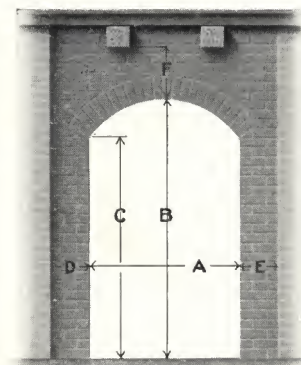
No. 21



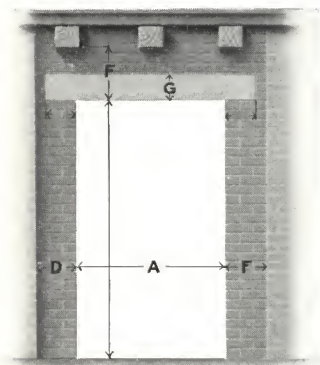
No. 22



No. 23



No. 24



No. 25

Required Measurements—See opposite page.



INFORMATION AND MEASUREMENTS REQUIRED

Illustrations on opposite page showing openings and various kinds of lintels in general use, also measurements required.

Nos. from 11 to 20, inclusive. Lintels. In giving information describing lintels, state shapes and sizes of the parts composing it. If the door is mounted between jambs, give the location and projection of rivets in the bottom of lintel; if mounted upon face of wall, give distance from face of wall to web of beams, if not flush; if separator bolts project as in No. 5, give location and projection.

Nos. 21 and 22. Jamb guards. State of what they are made; whether even or projecting. Give height, lap and projection.

No. 23. Series of openings separated by column, in elevation, cross and vertical sections.

No. 24. Opening in brick wall, arched top in elevation and cross section.

No. 25. Opening in brick wall with lintel in elevation and cross section.

No. 26. Window opening in brick wall, elevation and cross section.

No. 27. Door opening in tile partition, elevation and cross section.

The essential measurements are as follows:

A—Width; if door is mounted in opening, give width at top and bottom.

B and C—Height of opening.

D and E—Projection in close proximity to the opening.

F—Clearance between top of opening and floor beams, or ceiling.

G—Height of lintel.

H—Thickness of wall.

I—Projection of some part of the wall near opening.

J—Depth of column; give shape and sizes of parts composing column.

K—Width of column.

L—Distance from column to inner face of wall.

M—Lap of guard.

N—Height of guard.

O—Projection of guard.

P—Lap of guard.

Q—Projection of sill.

Minor measurements are indicated by dimension lines, but not lettered.

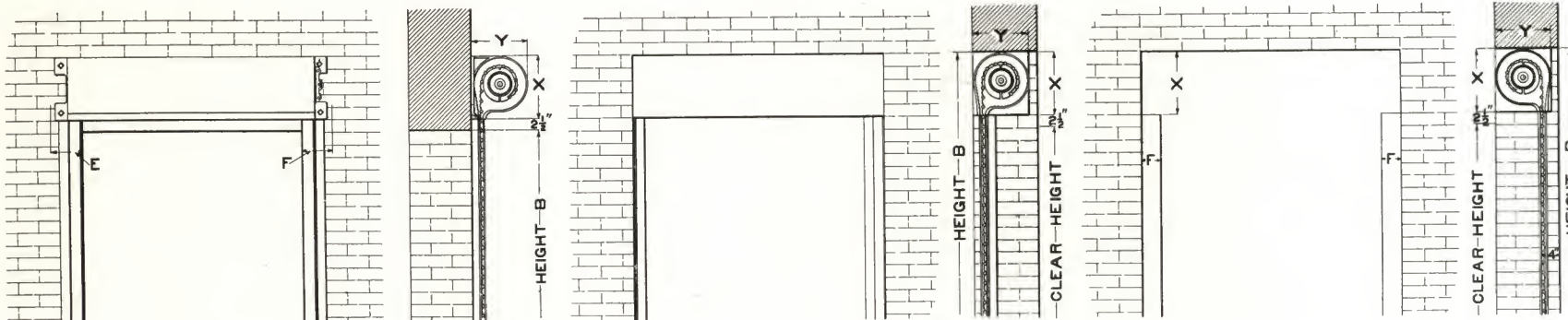


FIG. 1

FIG. 2

FIG. 3

NON-AUTOMATIC DOORS

Above figures apply to manually operated doors. The dimensions listed include working clearances. The dimensions E and F can be reversed. We do not recommend the manually operated construction for openings of larger area than approximately 100 square feet. The mechanical operation should be used for larger sizes.

DIMENSIONS FOR FIG. 1

DIMENSIONS FOR FIG. 2 AND FIG. 3

DIMENSIONS FOR FIG. 1										DIMENSIONS FOR FIG. 2 AND FIG. 3																		
Width A	C	E	F	Height B	No. 2 SLAT				No. 5 SLAT				Width A	C	E	F	Width W	Height B	No. 2 SLAT				No. 5 SLAT					
					Width A		Width A		Width A		Width A								Width A		Width A		Width A		Width A		Width A	
					0' to 8'	8' to 10'	0' to 8'	8' to 10'	0' to 8'	8' to 10'	0' to 8'	8' to 10'							0' to 8'	8' to 10'	0' to 8'	8' to 10'	0' to 8'	8' to 10'	0' to 8'	8' to 10'		
3'-0"	2"	5½"	5½"	4'-0"	12¼"	10⅝"	12¼"	11⅞"	13¼"	11⅞"	13¼"	11⅞"	3'-0"	2"	23⅝"	4"	2'-5⅜"	5'-0"	11¼"	9¾"	13"	11⅞"	13½"	12"	13½"	12"	13½"	
4'-0"	2"	5½"	5½"	5'-0"	13¼"	11⅞"	13¼"	11⅞"	13¼"	12⅜"	13¼"	12⅜"	4'-0"	2"	23⅝"	4"	3'-5⅜"	6'-0"	13"	11⅞"	13"	11⅞"	14"	12½"	14"	12½"		
5'-0"	2"	5½"	5½"	6'-0"	13¼"	11⅞"	13¼"	11⅞"	14¼"	12⅞"	14¼"	12⅞"	5'-0"	2"	23⅝"	4"	4'-5⅜"	7'-0"	13½"	12"	13½"	12"	14⅝"	13"	14⅝"	13"		
6'-0"	2"	5½"	5½"	7'-0"	14¼"	12⅞"	15⅜"	14"	15¼"	13⅝"	16¼"	14⅝"	6'-0"	2"	23⅝"	4"	5'-5⅜"	8'-0"	14⅝"	13"	15⅛"	14"	14⅝"	13"	16¼"	14⅝"		
7'-0"	2"	5½"	5½"	8'-0"	16⅜"	14⅝"	16⅜"	14⅝"	17¼"	15⅝"	17¼"	15⅝"	7'-0"	2½"	27⅛"	4½"	6'-4⅝"	9'-0"	16⅜"	14¼"	16⅜"	14¼"	17⅝"	15¼"	17⅝"	15¼"		
8'-0"	2½"	6"	6"	9'-0"	16⅜"	14⅝"	16⅜"	14⅝"	18¼"	16⅝"	18¼"	16⅝"	8'-0"	2½"	27⅛"	4½"	7'-4⅝"	10'-0"	16⅜"	14¼"	16⅜"	14¼"	17⅝"	15¾"	17⅝"	15¾"		
9'-0"	2½"	6"	6"	10'-0"	17⅝"	15⅝"	18⅞"	17⅞"	18¼"	16⅝"	19⅝"	18¼"	9'-0"	2½"	27⅛"	4½"	8'-4⅝"	11'-0"	17⅝"	15¾"	18⅞"	16¾"	17⅝"	15¾"	19⅞"	18⅝"		
10'-0"	2½"	6"	6"	11'-0"	18⅞"	17⅞"	18⅞"	17⅞"	19⅝"	18¼"	19⅝"	18¼"	10'-0"	2½"	27⅛"	4½"	9'-4⅝"	12'-0"	19⅝"	17¾"	19⅝"	17¾"	19⅞"	18⅝"	19⅞"	18⅝"		
11'-0"	3"	6½"	6½"	12'-0"	18⅞"	17⅞"	18⅞"	17⅞"	21⅞"	18⅝"	21⅞"	18⅝"	11'-0"	3"	33⅝"	5"	10'-3⅝"	13'-0"	19⅝"	17¾"	19⅝"	17¾"	20⅝"	18⅞"	20⅝"	18⅞"		

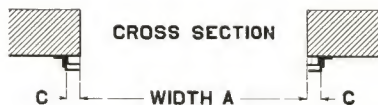
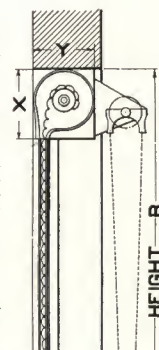
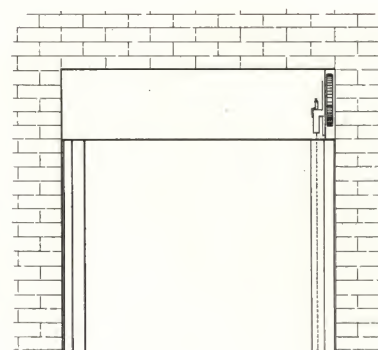
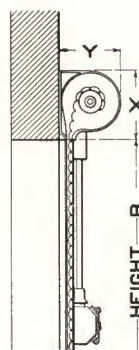
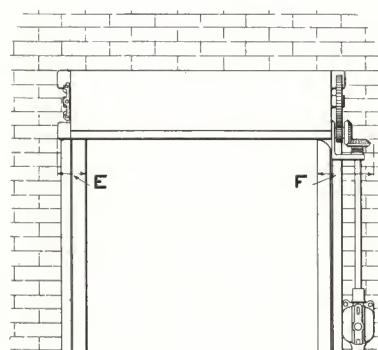
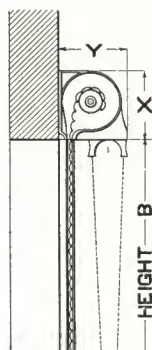
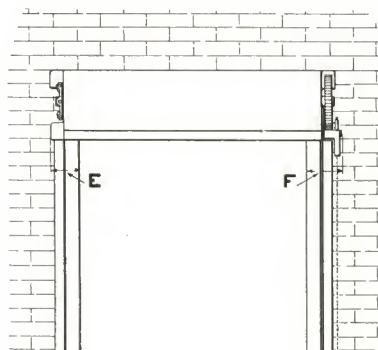


FIG. 1

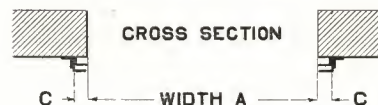


FIG. 2

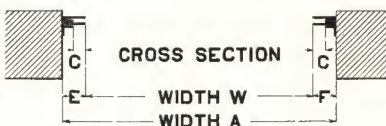


FIG. 3

NON-AUTOMATIC DOORS

Above figures apply to the mechanical operation. Dimensions listed below include working clearances. The dimensions E and F can be reversed. The initials S.G., I.G., and D.G., refer to the arrangement of gears. Only the D.G. arrangements can be used for doors over 180 square feet.

DIMENSIONS FOR FIG. 1 AND FIG. 2

FIG. 1					FIG. 2	Width A		Width A		Width A		Width A		Width A		Width A		Width A	
Width A	S. G.	I. G.	D. G.	Height B		5' to 10'		10' to 12'		12' to 14'		14' to 16'		16' to 18'		18' to 20'		20' to 22'	
						X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
0' to 7' E	C	2"	2"	2"	7'-0"	12"	14 1/4"	12"	14 1/4"	12"	14 1/4"	14 1/4"	15 3/4"	16 3/8"	18 1/4"	17 3/8"	16 3/8"	17 3/8"	16 3/8"
	E	5 1/4"	4"	5 1/4"	8'-0"	12"	14 1/4"	12 3/4"	14 1/4"	12 3/4"	14 1/4"	14 1/4"	16 1/4"	17 3/8"	16 3/8"	17 3/8"	17 3/8"	16 3/8"	
	F	7"	4"	10 1/2"	9'-0"	12 3/4"	14 1/2"	14 1/4"	15 3/4"	14 1/4"	15 3/4"	14 1/4"	16 1/4"	17 3/8"	16 3/8"	17 3/8"	16 3/8"	17 3/8"	
7' to 10' E	C	2 1/2"	2 1/2"	2 1/2"	10'-0"	12 3/4"	14 1/2"	14 1/4"	15 3/4"	14 1/4"	15 3/4"	14 1/4"	16 1/4"	17 3/8"	16 3/8"	17 3/8"	16 3/8"	17 3/8"	16 3/8"
	E	5 3/4"	4 1/2"	5 3/4"	11'-0"	14 1/4"	15 3/4"	14 1/4"	15 3/4"	14 1/4"	15 3/4"	17 1/4"	16 3/8"	17 3/8"	17 1/4"	17 3/8"	17 1/4"	17 3/8"	
	F	7 1/2"	4 1/2"	11"	12'-0"	14 1/4"	15 3/4"	14 1/4"	15 3/4"	15 1/4"	16 3/8"	17 3/8"	16 3/8"	18 3/8"	17 3/8"	18 3/8"	17 3/8"	20 1/4"	
10' to 14' E	C	3"	3"	3"	13'-0"	14 1/4"	16 1/4"	14 1/4"	16 1/4"	15 3/4"	16 3/8"	17 3/8"	16 3/8"	19 3/8"	18 1"	19 3/8"	18 1"	21 3/8"	20 1/4"
	E	6 1/4"	5 1/2"	6 1/4"	14'-0"	15 1/4"	17"	15 1/4"	16 3/8"	15 3/4"	16 3/8"	17 3/8"	16 3/8"	21 3/8"	20 1/4"	21 3/8"	20 1/4"	21 3/8"	20 1/4"
	F	8"	5"	11 1/2"	15'-0"	15 3/4"	17"	16 1/4"	18 1/4"	17 3/8"	16 3/8"	18 3/8"	17 3/8"	21 3/8"	20 1/4"	21 3/8"	20 1/4"	21 3/8"	20 1/4"
14' to 20' E	C	3 1/2"	3 1/2"	3 1/2"	16'-0"	16 1/4"	18"	17 3/8"	16 3/8"	17 3/8"	16 3/8"	18 3/8"	17 3/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"
	E	7 1/2"	7 1/2"	7 1/2"	18'-0"	18 3/8"	17 3/8"	18 3/8"	17 3/8"	18 3/8"	17 3/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"
	F	7 1/2"	12 1/2"	12 1/2"	20'-0"	18 3/8"	17 3/8"	18 3/8"	17 3/8"	18 3/8"	17 3/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"
20' to 25' C		4"	4"	4"	22'-0"	19 3/8"	18"	19 3/8"	18 3/8"	21 3/8"	20 1/4"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"	23 3/8"	22 1/8"

DIMENSIONS FOR FIG. 3

Width A	C	E	F	Width W										
					Width A		Width A		Width A		Width A		Width A	
					5' to 10'	10' to 12'	12' to 14'	14' to 16'	16' to 18'					
				Height B	X	Y	X	Y	X	Y	X	Y	X	Y
7'-0"	2"	4"	4"	6'-4"	7'-0"	12 5/8"	10 1/8"	13 1/8"	10 5/8"	13 1/8"	10 5/8"	13 1/8"	11 5/8"	15 5/8"
8'-0"	2 1/2"	4 1/2"	4 1/2"	7'-3"	8'-0"	13 1/8"	10 5/8"	13 1/8"	10 5/8"	13 1/8"	10 5/8"	13 1/8"	12 1/8"	16 3/8"
9'-0"	2 1/2"	4 1/2"	4 1/2"	8'-3"	9'-0"	13 1/8"	11 1/2"	14 1/8"	12 1/2"	14 1/8"	12 1/2"	14 1/8"	13"	16 3/8"
10'-0"	2 1/2"	4 1/2"	4 1/2"	9'-3"	11'-0"	13 1/8"	11 5/8"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	13 1/8"	16 3/8"
11'-0"	2 1/2"	4 1/2"	4 1/2"	10'-3"	11'-0"	13 1/8"	11 5/8"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	13 1/8"	16 3/8"
12'-0"	3"	5"	5"	11'-2"	11'-0"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	13 1/8"	17 5/8"
13'-0"	3"	5"	5"	12'-2"	12'-0"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	12 5/8"	14 1/8"	13 1/8"	18 3/8"
14'-0"	3"	5"	5"	13'-2"	13'-0"	14 3/4"	13"	14 3/4"	13"	15 5/8"	14"	15 5/8"	14"	19 3/8"
15'-0"	3 1/2"	7 1/2"	7 1/2"	13'-9"	14'-0"	14 3/4"	13 3/8"	14 3/4"	13 3/8"	15 5/8"	14 1/8"	15 5/8"	14 1/8"	19 3/8"
16'-0"	3 1/2"	7 1/2"	7 1/2"	14'-9"	15'-0"	15 5/8"	14 3/8"	15 5/8"	14 3/8"	15 5/8"	14 3/8"	15 5/8"	14 3/8"	21 3/8"
17'-0"	3 1/2"	7 1/2"	7 1/2"	15'-9"	16'-0"	15 5/8"	14 3/8"	15 5/8"	14 3/8"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	21 3/8"
18'-0"	3 1/2"	7 1/2"	7 1/2"	16'-9"	17'-0"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	21 3/8"
19'-0"	3 1/2"	7 1/2"	7 1/2"	17'-9"	18'-0"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	16 3/8"	14 3/8"	21 3/8"
20'-0"	4"	8"	8"	18'-8"	20'-0"	19 1/8"	18 3/8"	19 1/8"	18 3/8"	19 1/8"	18 3/8"	19 1/8"	18 3/8"	24 3/8"



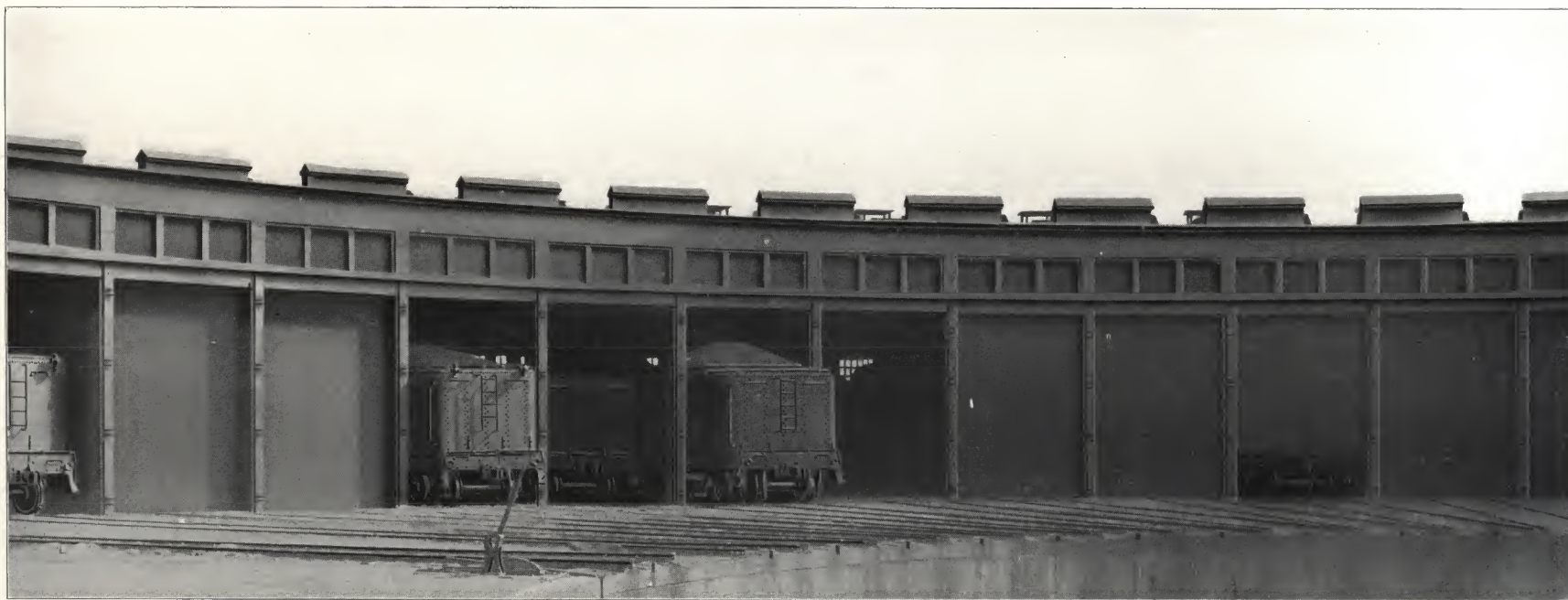
WOOD-ROLLING DOORS AND PARTITIONS

Wood rolling doors and partitions are chiefly used for interiors, in churches and schools, for sub-dividing large rooms.

Their architectural treatment is not difficult. They may be concealed in panelled casement, relieved by moulds and cornices to produce the desired effects. The wood of which the slats are made, as well as the color tones, can be harmonized with the interior finish of the room.

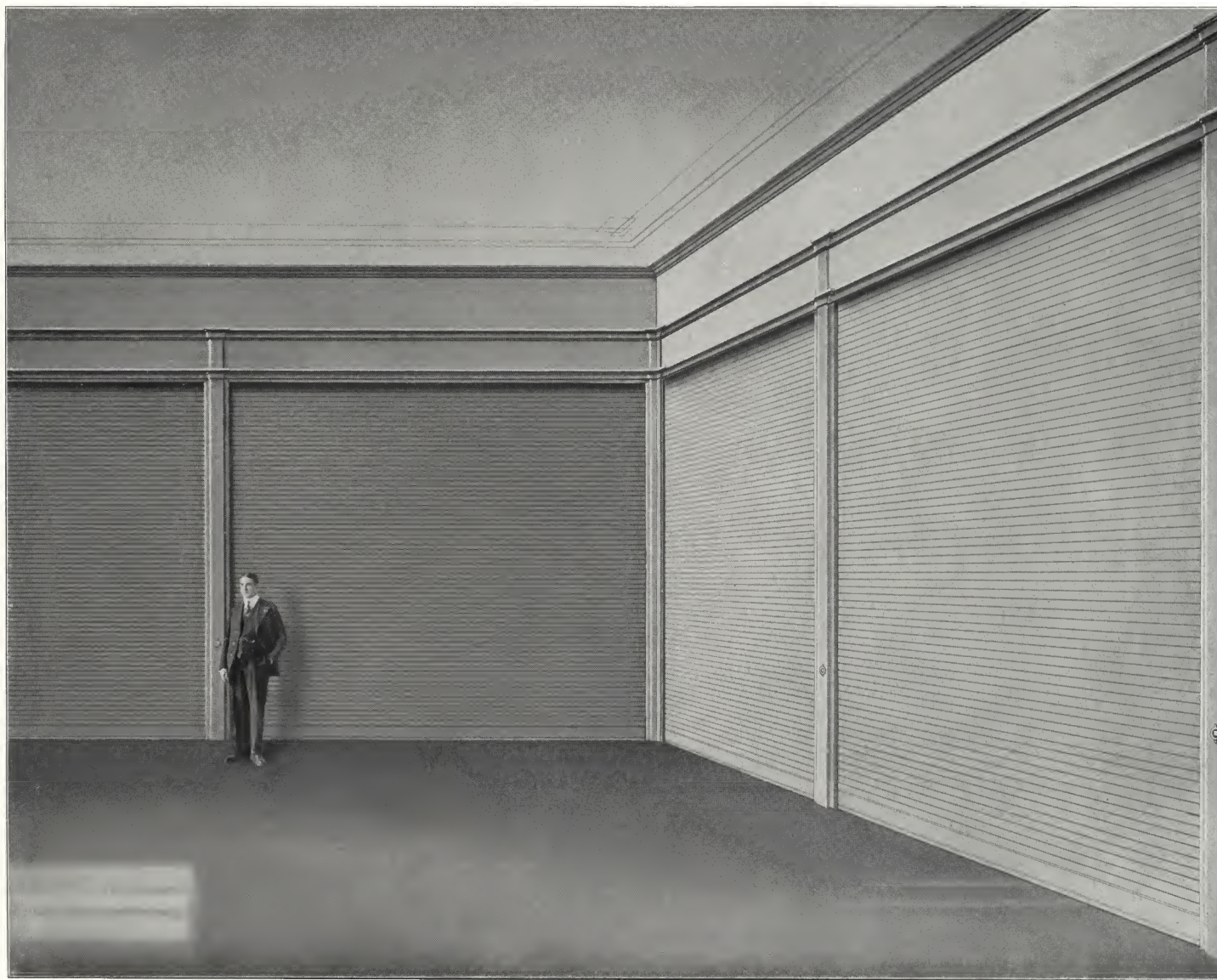
In exterior work, while suitable, steel is preferable, except in special cases, such as round houses, as they are less susceptible than steel to corrosive agents, such as sulphurous gases, combined with moisture common to poorly ventilated round houses.

They are operated manually and mechanically; the means are similar to those employed for steel rolling doors.

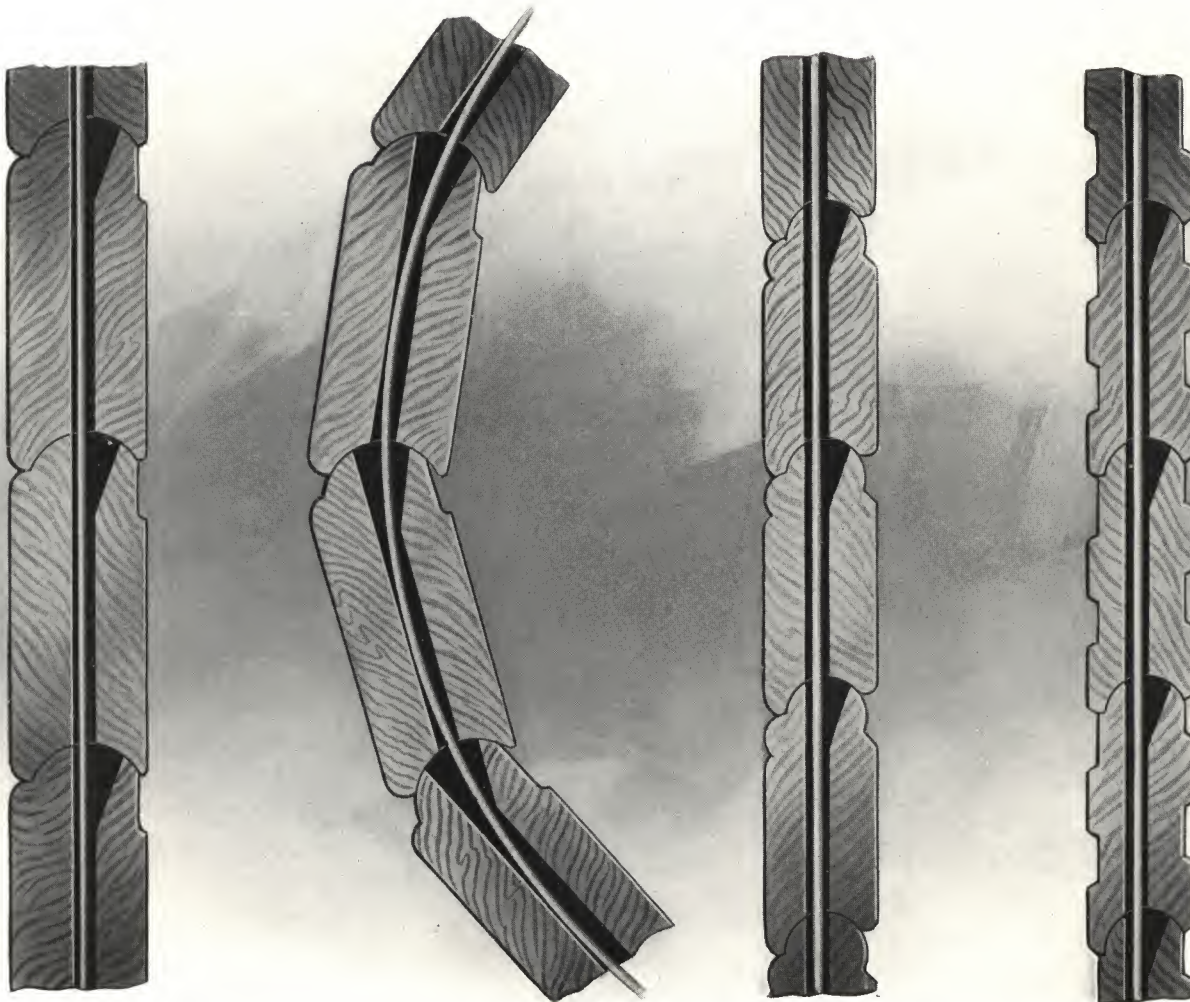




Kinnear Wood Rolling Doors installed in round house of the Lehigh Valley R. R. Co., Wilkes-Barre, Pa. Curtains are composed of Slats No. 27.



Wood Rolling Partitions are a convenient and practical means for separating class rooms, or sub-dividing a large room into a number of smaller; particularly adaptable to schools and churches.



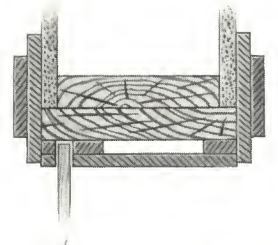
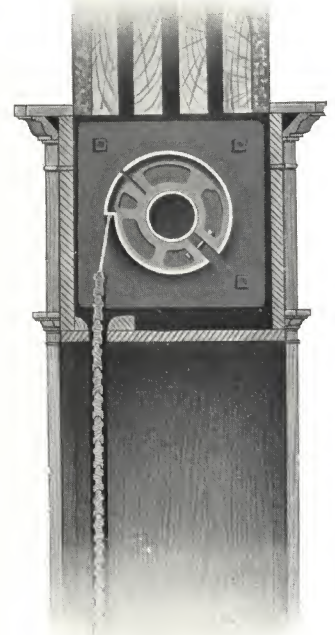
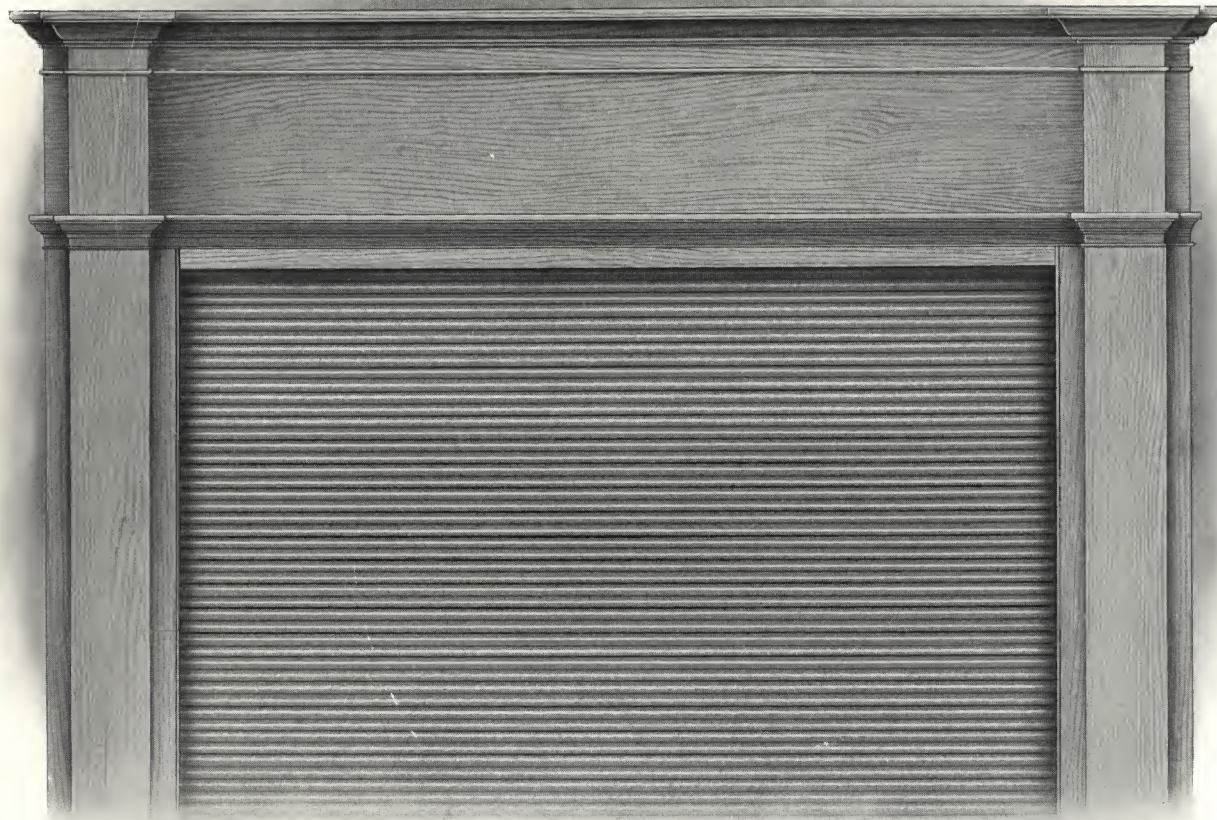
No. 27

No. 26

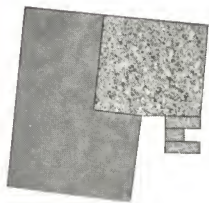
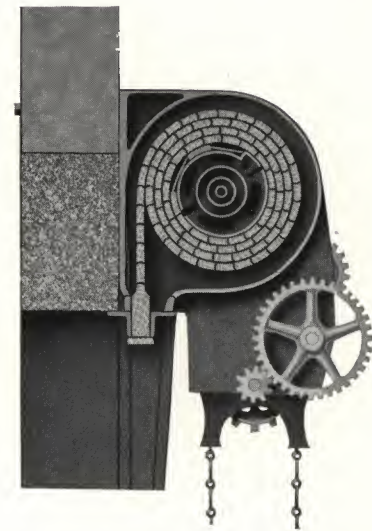
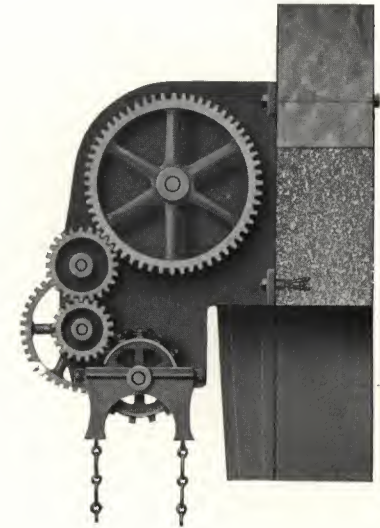
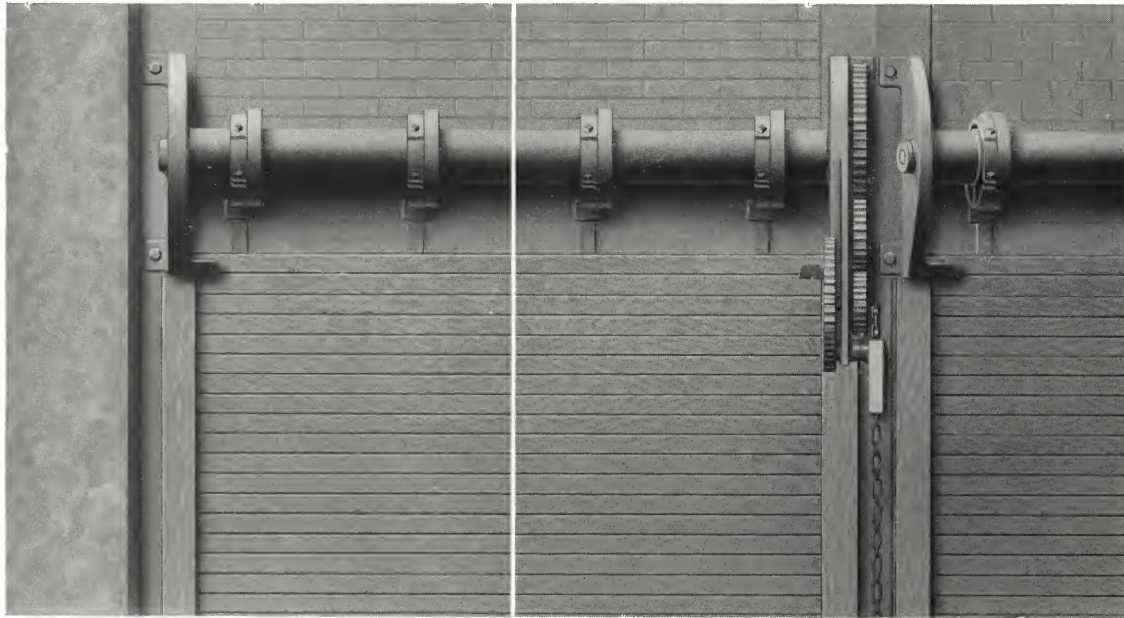
No. 24

Wood Slats—No. 27 is for doors having exterior exposure. Made of long leaf pine and cypress.

Nos. 26 and 24 are for interior and ornamental partitions. Made of hard pine, oak and birch. Ribbons are of phosphor bronze. The construction of the curtain is theoretically correct; the openings in slats through which the ribbons pass are so shaped that during flexure there is no change in the relative length of slats and ribbon, nor is there any danger of pinching the ribbon.



Construction B. M. W. 10—This shows the application of the Wood Rolling Door to interior partitions. The coil is concealed in box under the lintel. Operated by means of handle in bottom rail, or by various other methods, depending on the size of door. The operating parts can be concealed if desired. Casing is not furnished with the door.



Construction F. H. W. 22. Coil and groove mounted on face of wall, counter-balanced by springs, contained in barrel. Operated by means of endless chain and reduction gear. The barrel is journaled on fixed bearings. Slats and grooves are made of long leaf pine or cypress. Space between top slat and point of attachment accommodates elongation of the curtain, due to swelling of slats, resulting from absorption of moisture.

The above illustration shows application of door to round houses.



FOLDING AND VERTICAL SLIDING DOORS

These types are particularly adapted to depots, freight houses, docks, warehouses, and shops; especially where a well-lighted interior is necessary, or where the door is the only resource of light. For such situations, the upper section is fitted with sash and glazed. Where the height of the door is sufficient, swinging pass doors may be arranged in the lower section, thus obviating the necessity of opening the entire door.

These doors are constructed either in wood or steel, or wood frame covered with steel.

Space limitations prevent entering extensively into details of construction and methods of covering. Such information will be supplied upon request.

When designing buildings in which their use is contemplated, space should be provided for both sections above the opening, and for the mechanism and counterweight box at the side. (See schedule of clearances on pages 90 and 92.)

These doors are not difficult to erect, and work can be accomplished by any good mechanic, as blue prints and instructions are sent with each shipment, explaining method to follow.



Freight house equipped with Vertical Sliding Sectional Doors.



Norfolk & Western Freight House, Norfolk, Va.—Both sides of this building are equipped with Kinnear Bi-folding Doors, Type No. 1, constructed in steel. The frames are composed of channels and angles covered with corrugated iron. The upper half is filled with steel sash, glazed with quarter-inch factory ribbed wire glass.



Kinnear Bi-folding Doors, Type No. 1—Typical installations. No. 1, American Can Co., Toledo; No. 2, Carson, Pirie, Scott & Co., Chicago; No. 3, Hydraulic Pressed Steel Co., Cleveland.



Installations of Kinnear Bi-folding Doors, Type No. 1—Views 1 and 2. Interior and exterior of Pennsylvania Freight House, Cambridge, Ohio. No. 3. Bulkhead connecting Piers Nos. 53 and 55, Philadelphia.



Kinnear Bi-folding Type No. 2—Three distinct claims are made for this type of door—rapidity and ease of operation, and the elimination of “breaking” the door by hand. The principles involved in the design of this door admit of its application to large openings. Heretofore the attempt to extend to large sizes, a design commonly employed for small openings has shown unsatisfactory results, chiefly because of the difficulty experienced in “breaking” the doors by hand before they are raised by their mechanical appliances.

In Kinnear Bi-folding Type No. 2 the operations of unlocking, breaking and raising are all accomplished by means of endless chain.



Pennsylvania Railroad Piers Nos. 53 and 55, Philadelphia—The openings are 20 feet wide by 17 feet high, equipped with Kinnear Bi-folding Type No. 2.



Views Showing Trans-Mississippi Terminal of the Texas & Pacific Railway, New Orleans—The baggage room in passenger station is equipped with twenty bi-folding doors; the freight station with one hundred and forty steel rolling doors.

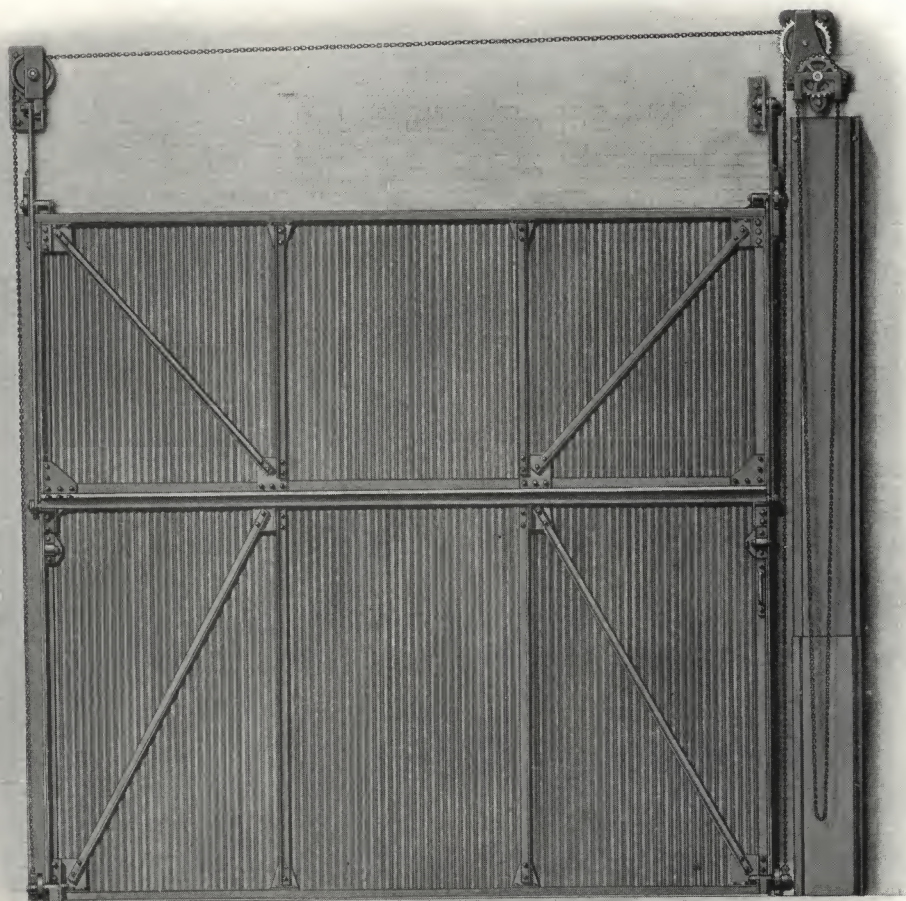


Santa Fe Freight Shed, Los Angeles, Cal., equipped with Vertical Sliding Sectional Doors—Interior Views. Nos. 1 and 2, the latter showing three positions of the door. For details see illustration and description on Page 94.



BI-FOLDING DOORS

TYPE No. 1



Bi-folding Door, Type No. 1—Constructed in steel. Framing members are channels and angles, securely connected by means of malleable gussets. Doors covered with corrugated steel, galvanized. The upper section can be pierced by lights fixed in metal sash.

This door comprises two sections hinged together and supported at the center by radial arms pivotally connected to wall brackets; at the bottom, chains are attached which connect to the counterbalance weight.

The bottom of door is fitted with rollers, which travel in guides attached to wall and transmit the thrust; the door is evenly counterbalanced and operated with ease and rapidity by means of endless chain, sprocket and gear.

The hardware and framing members are properly proportioned to the size of door and have ample strength to prevent excessive deflection of the sections when the door is raised.

The structural design and liberal use of material give both strength and durability.

Large doors can be arranged with small pass doors in bottom section.

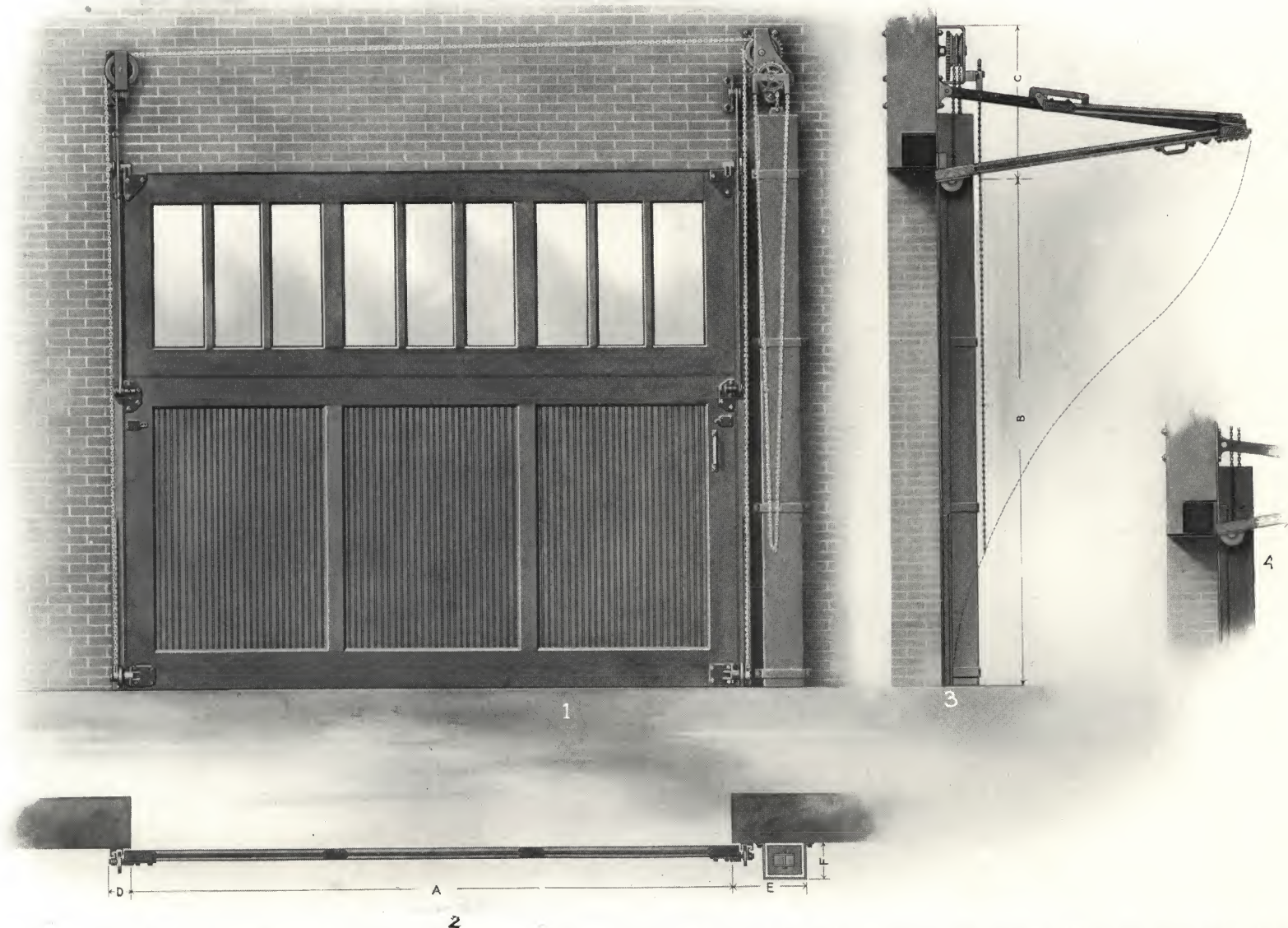
TABLE FOR DETERMINING THE CLEARANCE "C" USING 8" x 9" COUNTERWEIGHT. DIAGRAM OPPOSITE PAGE

B. Height of Opening in Feet	A. WIDTH OF OPENING IN FEET										
	6	7	8	9	10	11	12	13	14	15	16
6	2'4"	2'4"	2'5"	2'6"	2'7"	2'8"	2'9"	2'10"	2'10"	3'0"	3'1"
7	2'4"	2'5"	2'5"	2'6"	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"
8	2'5"	2'6"	2'6"	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"
9	2'6"	2'6"	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"
10	2'6"	2'7"	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"
11	2'7"	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"
12	2'7"	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"	3'5"
13	2'8"	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"	3'5"	3'6"
14	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"	3'5"	3'6"	3'7"
15	2'9"	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"	3'5"	3'6"	3'7"
16	2'10"	2'11"	3'0"	3'1"	3'2"	3'3"	3'4"	3'5"	3'6"	3'7"	3'8"

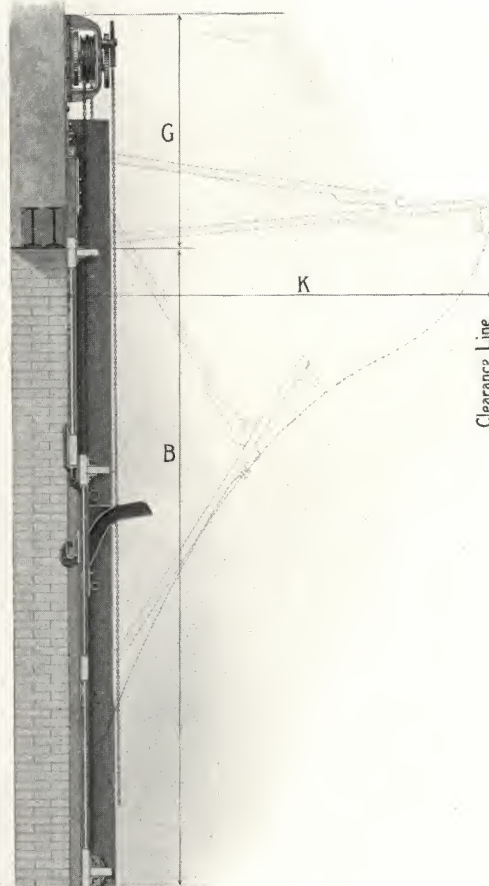
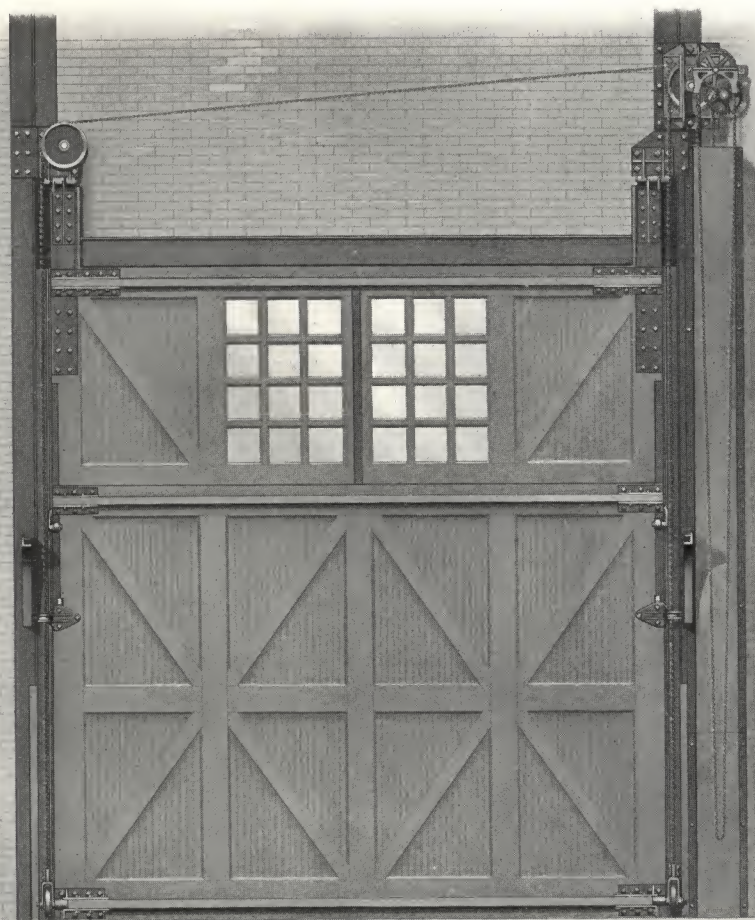
Clearance "D," 6". Clearance "E," 18". Clearance "F," 10".

Example—Required "C" for door 12' wide by 10' high. See intersection of column 12 and line 10, the dimension is 3' 0". This may be reduced by cutting out the floor under counterweight, permitting it to extend below floor level.

Where clearance at top and sides are not available for regular equipment, it is advisable to request information, accompanying the same with details of openings. We will be pleased to furnish drawings showing special attachments applicable to the conditions.



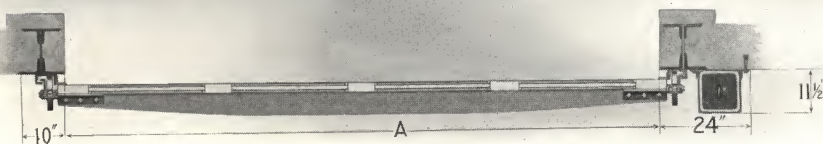
Bi-folding Door, Type No. 1—Constructed in wood. The rails and styles are mortised and pinned together. The lower panels are filled with tongue and groove sheathing. The upper panels are arranged for lights. The thickness of glass desired should be specified. It is not customary to furnish the doors with glass, because of breakage in shipment. In new buildings the design of lintel should provide a recess to receive the lower edge of door; otherwise it will project down into the opening. See Fig. 4. Fig. 1. Elevation. Fig. 2. Cross-section. Fig. 3. Vertical section. Fig. 4. Section through lintel, showing lintel set back, leaving recess for lower edge of door. See schedule of clearances on opposite page.



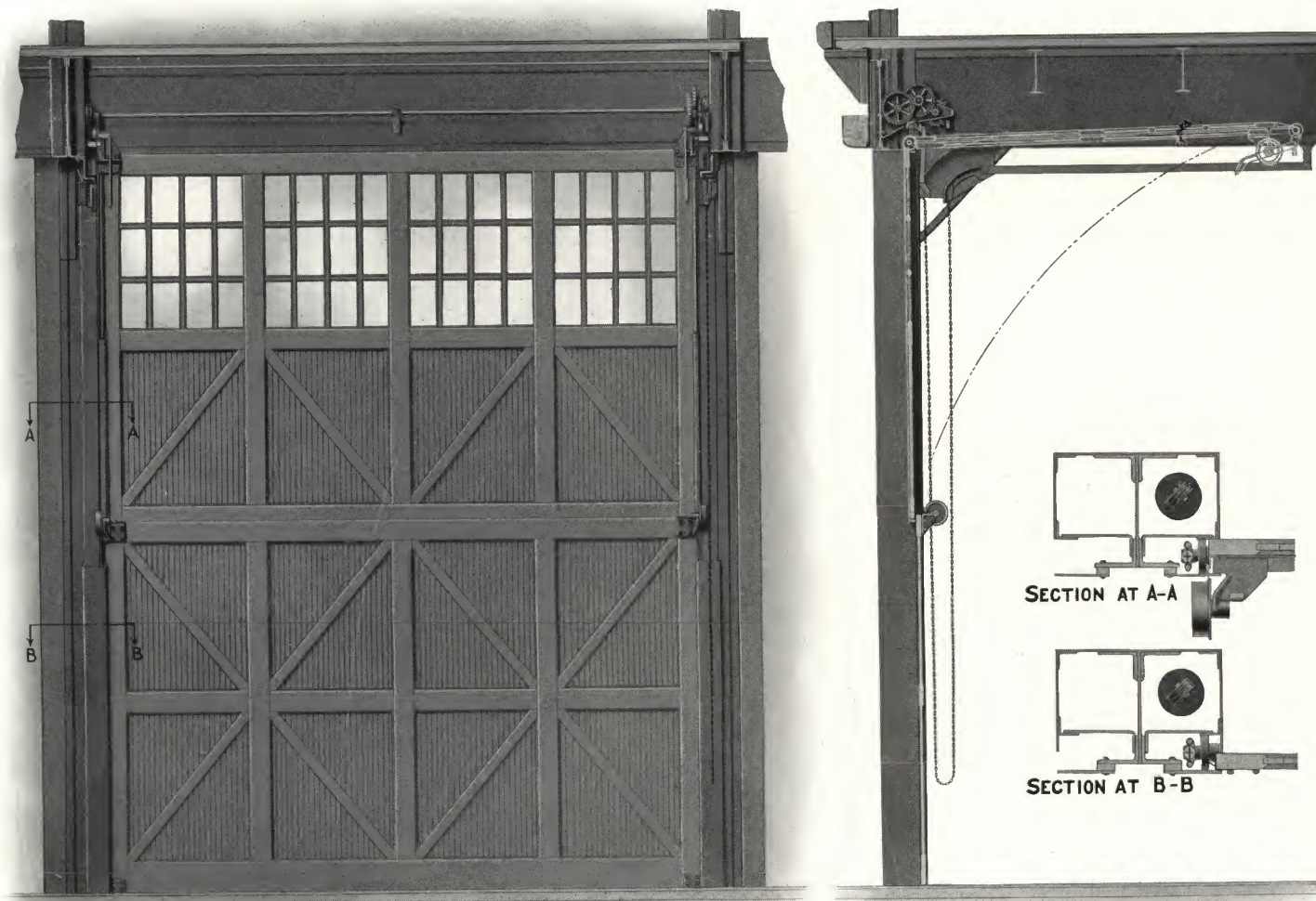
The schedule gives the clearances "C" and "K" for different size openings, using standard construction. The dimension "C" can be reduced either by using different size counterweights or by permitting the counterweights to extend below the floor level.

SCHEDULE OF DIMENSIONS

B	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"
C	3'-9 $\frac{1}{8}$ "	3'-10 $\frac{1}{8}$ "	4'-0 $\frac{3}{8}$ "	4'-2 $\frac{3}{8}$ "	4'-4 $\frac{1}{8}$ "	4'-5 $\frac{1}{8}$ "	4'-7 $\frac{1}{2}$ "	4'-9 $\frac{1}{4}$ "	4'-11"	5'-0 $\frac{3}{4}$ "	5'-2 $\frac{1}{8}$ "
K	7'-1 $\frac{1}{2}$ "	7'-8"	8'-3"	8'-10"	9'-5"	9'-11 $\frac{1}{2}$ "	10'-6 $\frac{1}{2}$ "	11'-1 $\frac{1}{2}$ "	11'-8"	12'-3"	12'-10"

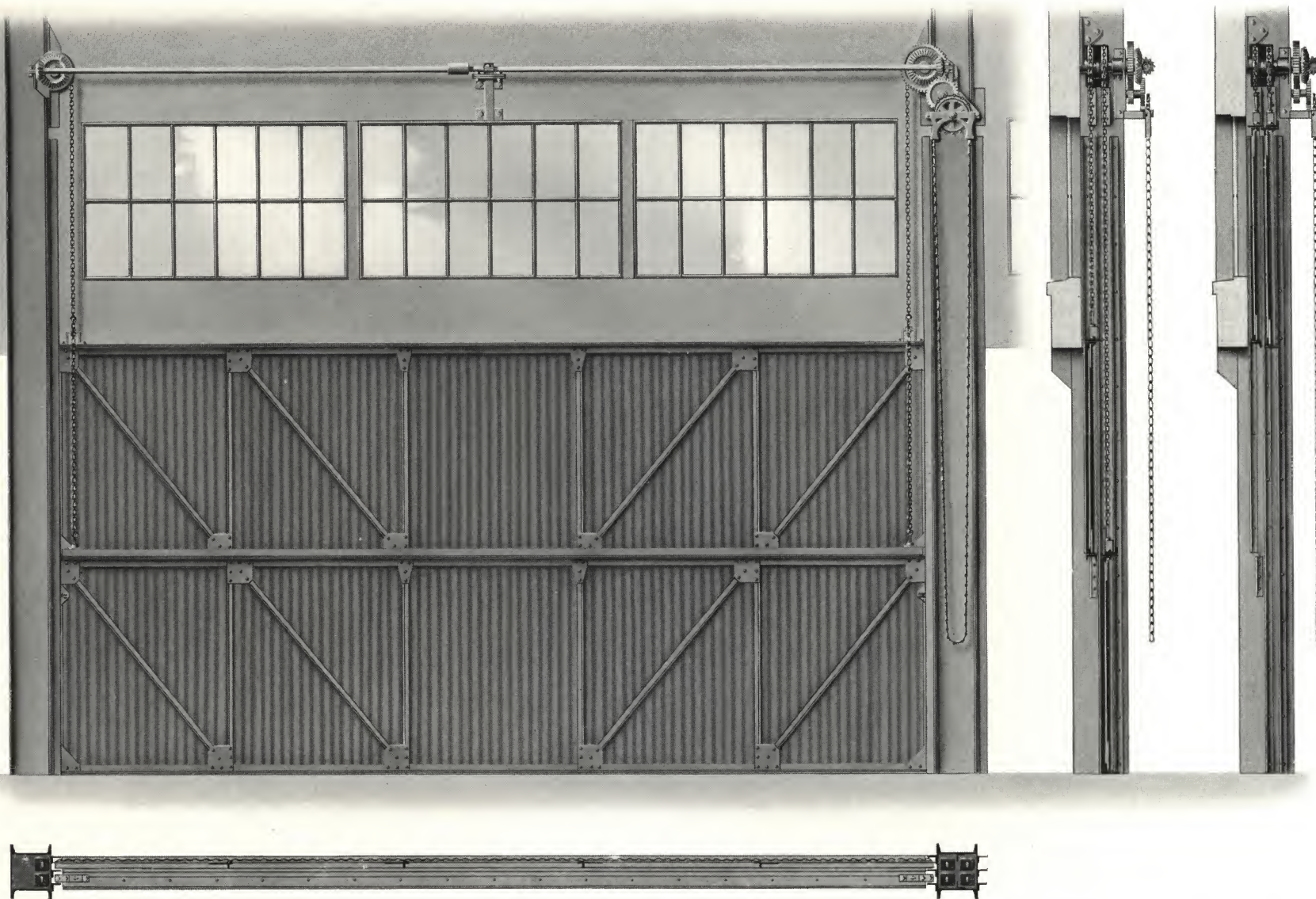


Kinnear Bi-folding Doors, Type No. 2—This is especially designed for large openings and operates with ease and rapidity. It is unnecessary to "break" the door by hand, as is generally done in other types of folding doors; the operations of unlocking, "breaking" and raising are accomplished by means of the endless chain. A reversal of these functions occur when the door is closed. In opening, the lower section moves upward a distance approximately 18" when the hooks on the lower section engage reciprocal members on the upper section; the door then folds radially to a point above the opening.



Kinnear Bi-folding Door, Type No. 3—Designed for pier sheds, openings up to 24 feet in width and 28 feet in height. Made in either steel or wood. Counterbalanced by weights and operated by means of endless chain and reduction gearing. Columns are designed to receive the weights and form the vertical guides.

Operation: The lower section raises to approximately half the height of the opening before breaking; then both sections move simultaneously, the lower edges vertically and the upper edges horizontally, to the position above the opening, shown by phantom lines. This type does not induce excessive strains in its structure or in the attachments to the building. After breaking, the upper edges of the sections are carried by rollers traveling on horizontal tracks.



Vertical Sliding Sectional Door—This door is composed of two or more sections consisting of trussed frame covered with corrugated iron. Sections are hung independently by chains, connected with counter-balance weights. Operated by means of endless chain and suitable reduction gear.

All sections are lifted by their chains. Thus they hang free in the grooves. This is accomplished by means of clutches inserted between sheaves, and avoids the use of projecting lugs for moving the sections, which tends to cant the sections and produce groove friction. See page 89.

FIRE TESTS OF KINNEAR STEEL ROLLING DOORS AND SHUTTERS

THE UNDERWRITERS LABORATORIES, INC.,
CHICAGO, ILL.

The samples were subjected to the standard test to ascertain the effect of fire of one hour duration with temperatures rapidly increasing to approximately 1,800 degrees, Fahrenheit, and the sudden cooling by the application of a 7/8 stream of water, sixty-five pounds nozzle pressure for one minute and to determine the efficiency in the reduction of heat transmission and radiation.

The doors and shutters illustrated on the following pages are now included in the approved list issued by the Underwriters Laboratories.

THE BRITISH FIRE PREVENTION COMMITTEE,
LONDON, ENGLAND.

Classified Kinnear Double Steel Rolling Fire Doors as full protection Sub-Class B.

In this classification the retardent is subjected to fire for a period of four hours with maximum temperature of 1,800 degrees Fahrenheit and a stream of water at sixty-five pounds nozzle pressure for a period of five minutes.

The retardent must successfully resist a passage of fire and water.

For full particulars of this and other tests of Kinnear Doors and Shutters, see reports issued by the Committee.



Before Test.



After Test.

The above illustrations are reproductions from photos made at a test of the Kinnear Doors conducted at the Underwriters' Laboratories, Inc. The fire temperature was 1,880 degrees, the illustrations show the side of the door presented to the fire.



FIRE DOORS AND SHUTTERS

CONSTRUCTED UNDER THE SUPERVISION OF THE UNDERWRITERS LABORATORIES, INC.

Our Catalog No. 53, is devoted exclusively to specially designed fire doors and shutters, constructed in accordance with the requirements of the Underwriters Laboratories, and are inspected and labeled at the factory by their representative.

Numerous illustrations show the application of many types adaptable to varied use and locations, the protection of openings in vertical shafts, corridors and room partitions, for fire walls and exterior exposures. They are arranged to operate manually and mechanically with automatic closing device, and can be equipped with governors controlling the descending speed of the curtain.

For full particulars, see Catalog No. 53, which will be sent upon application.

